

## California State Journal of Medicine.

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Medical Society of the State of California

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## ANNUAL MEETING

HOTEL VENDOME, SAN JOSE,

APRIL 20, 21 AND 22, 1909.

The 39th Annual Meeting of the Medical Society of the State of California will be held at the Hotel Vendome, San Jose, April 20, 21 and 22. On Monday, April 19, the Public Health Association will hold its annual meeting at the same place.

Reservations should be made at once; write directly to the Hotel Vendome.

The railroads have made the usual rate of *one fare and a third* for the round trip. Pay your full fare for the going trip and *be sure to get a receipt certificate* from the agent. Have the receipt certificate signed by the Secretary of the Society, when you return present it to the agent at San Jose, and your return ticket will be sold you for one-third fare.

Tickets will be on sale April 10th to 22nd, and the certificates will be honored April 20th to 24th.

For those south of and including Santa Barbara and Bakersfield the receipt certificates will be honored *if presented at San Jose* on or before May 3rd, 1909, thus giving a chance to those from Southern California to visit San Francisco after the meeting, if they so desire.

A very fine program has been provided (see elsewhere in this issue), and every member should make an earnest effort to attend this meeting. In addition to the scientific program, various features of a social nature will be provided by the committee of arrangements.

There will be automobile rides about the surrounding country, an afternoon tea and an evening reception for the ladies, and trips to Mt. Hamilton may be arranged at reduced rates.

A "stag" dinner will be given at the Hotel St. James on the evening of Thursday, April 22nd, and it is expected that the attendance will be large. The price per plate is not yet determined, but it will probably be \$2.50.

Every effort is being made by the Committee of Arrangements to make the San Jose meeting a notable one in every way.

Come and meet your friends. Come and learn something or teach something. Come and enjoy the hospitality of the Santa Clara Valley. In any event, come.

Let us give voice to those feelings of relief and gratification which surge through the manly bosom by saying, with heartfelt emphasis, *Thank God! The legislature*

**ADJOURNED, THANK GOD.** *has adjourned!!* For some possibly unaccountable reason, the attacks upon the medical and dental laws were unusually fierce and numerous this session. Bills of all sorts, introduced by all sorts of impossible people, intended to do all sorts of things to the medical law, were introduced; and at least one bad bill came pretty near to passing. In fact, Assembly Bill No. 1331, fathered by Mr. Silver, of Pleasanton, who seems to think he knows more about medical legislation than any other semi-living human being on earth or in the Heavens above it, passed the Senate by a vote of 21 to 15 on the night of March 20th. On the afternoon of Monday, the 22d, it was, however, reconsidered and refused passage by a vote of 22 to 14. Heroic work was done during those hours between Saturday night and Monday afternoon. At the present writing there is not sufficient time to analyse the various proposed measures and give the status of our various representatives—or misrepresentatives—on the questions.

It is particularly to be noted that this bill was backed energetically by two factions: the Los Angeles School of Osteopathy, whose representatives admitted in a committee meeting that their students could not pass the examinations of the present board of examiners, and by at least one member of the faculty of the College of Physicians and Surgeons of San Francisco. Can we imagine that Dr. Geo. L. Eaton, of the College of Physicians and Surgeons, San Francisco, spent all those many days in Sacramento at his own expense, and simply because he was infatuated with the honorable idea of lowering the standards of medical education in California? And, while we are in the mood for asking questions, do you not think it would be interesting to know just how many and what lawyers in Senate and Assembly were "retained" as legal representatives of these and other interests at work to defeat the purpose of the medical law—the protection of the public against ignorance and quackery? We will discuss this more at length subsequently.

It is indeed a sad and a pitiful thing to see ability gone astray; talent squandered upon phrase-making; genius thrown into the lap of the harlot. The more potentially able a man is, the more unpleasant is the spectacle of his alliance with the undesirable portion of the community. Dr. G. Frank Lydston, of Chicago, has gone out of his way to effect an alliance with the nostrum interests and to use his ability as a writer to help bolster up their failing cause of unrighteousness. The many "undesirable citizens" who have amassed fortunes out of the medical profession by the simple means of promoting nostrums, have fought in vain against the slow but sure work of the Council on Pharmacy and Chemistry of the American Medical Association. They have done everything in their power to create discord in the House of Delegates of that body. They have even had their own paid representatives elected as delegates with the deliberate object of creating dissension. But it has all been unavailing. The widely published attacks upon the Association (they have cost a lot of money; did the Proprietary Association put it up?) have done but little except to bring into closer harmony the great big majority of the A. M. A. This they have fully appreciated and so it has occurred to them as the last possible chance of creating discord, to attack the Secretary of the A. M. A., who is also the editor of the much hated *Journal* of the Association. And poor old Lydston had to go back a quarter of a century to find anything material upon which to base an attack that might have been bitter, were it not spoiled by his childish desire to turn a "cute" phrase and express his own unbounded admiration for himself. What a man has done—his record—means nothing in a partisan fight like this attack on Dr. Simmons. It means nothing to these throwers of manufactured mud that the *Journal* of the Association has come to be, in the last ten years, and under Dr. Simmons' management, the foremost medical publication in the world. It means nothing to these gentlemen (Heaven save the word!) that the Association has grown and thrived beyond the fondest dreams of those who helped its reorganization less than a decade ago. But it does mean much to this coterie that, with growth and prosperity, has come an ability to attack fraud and dishonesty and trickery, and to put out of business many a fake nostrum and many a fraudulent proprietary whose only worth was in the value of its advertising. And it is with the ranks of the fakes and the frauds that Lydston joins in attacking the Association, through its Secretary and Editor. The downfall of a possibly great man is a pitiable thing; there is no antagonism against Dr. Simmons raised by such obvious attacks; only pity for Dr. Lydston.

Time will probably convince the most skeptical, if there be any with grave doubts, that the amalgamation of the Medical School of the University of Southern California (a sectarian institution) with the University of California is a notable

#### GENIUS DEBAUCHED.

step forward, not alone for the Southern medical school, but also for medical education in the state and for the State University. A graduate from Berkeley, now studying law at Harvard, writes a personal letter on the subject from which we can not resist the desire to quote a few sentences:

"We have a pretty long coast line within which to concentrate public interest on any one institution. . . . People do not feel a great interest in something five hundred miles away whose influence can not touch them. But there is no better effect than knowing that the finest and most up-to-date institution near them is a living part of a larger organization which stands as an activity of the whole state. We needed something in Southern California very much, which would remind people of the underlying unity in higher and professional education. It will tend in the long run to make the Tehachapi less of a barrier to those who feel that the interests of both sides can not remain in common. I feel that all who are interested in the progress of either or both will extend mutual congratulations for an important step."

We understand that the present senior class will receive diplomas from the University of Southern California, but that subsequent classes will receive the diploma from the state institution at Berkeley. Just how the many details will work out, of course no one can say. But that both the medical department in the North and the one in the South will benefit, seems a very strong probability. Interest in the state institution is now brought close home to the legislators from the South—and the Southern delegation has always been a very strong one in our legislature. Surely, one can scarcely imagine a more satisfactory way for the expenditure of general funds than the upbuilding of the state's machinery for higher education and for the benefit of the entire people of the state. Probably there will be a falling off of students in the Southern medical school, for two or three years, or until the newly created standards requiring two years to be spent in general university courses of a pre-medical nature, but after that period the school should take on a new lease of life and its classes and its work should materially increase and improve. One word of suggestion—probably unnecessary—we would give to those in control of the Southern school; hunt out well prepared young men and work them into the school. There are plenty such only waiting for an opportunity; let them have it.

Under date of February, 1909, Leland Stanford Junior University puts out a preliminary announcement of its Department of Medicine, founded as Cooper Medical **PROGRESS**. College. The taking over of Cooper Medical College by Stanford University, is a notable event for our state and for medical education in general. The plan adopted by most, if not all university medical departments, is here to be followed, and at least three years of

#### NOTABLE ADVANCE.

university work of a pre-medical character are required before the student enters upon his purely medical work, which will take another four years, thus making a seven-year course. It has been said that the day of the proprietary medical school is over; whether or not this is actually true, is not a fixed matter of fact but is still open for discussion and subsequent events to demonstrate. True it is, however, that the day has gone when a medical school can be operated as a matter of profit for the owners or the faculty and comply with the legal requirements of the licensing boards of the various states. Much less than a generation ago, there were practically no laws governing the practice of medicine that required a medical school to teach real medicine, and at the best schools the course was not over three years; now, as we see from this announcement of the Medical Department of Stanford, a seven-year course has become the order of the day. The question arises, what is to become of the class of individuals who can not afford to give seven years to the study of medicine? Is there not room for the proprietary school, taking applicants with fairly good preliminary education—say high school graduates—and giving them a fairly good four-year medical course that will meet all reasonable requirements? There are many men who believe that this is the case and that proprietary schools of this character, a few of them at least, will not only survive, but will be a necessity. There is no doubt, though, that the day is gone for the school that does not attempt to live up to the minimum of required standards; examining boards in the various states have quite effectually killed off this pernicious parasite. With the amalgamation of the Southern school with the State University, and of Cooper College with Stanford University, medical education in California has made a tremendously important advance in the last few months. Truly, the world do move; hard work does pay.

Dr. Harvey W. Wiley, in charge of the administration of the Pure Food and Drug Law, ruled, some time ago, that benzoate of soda was harmful and should not be used as a preservative of food-stuffs. Immediately there was a tremendous howl from a large number of canners and packers. Not that benzoate of soda is necessary to the preservation of good, wholesome food-stuffs, properly treated; but that it is necessary for the preservation of semi-decayed fruit and vegetables, and some canners derive great profit from the sale of just this sort of raw material which, with the addition of a chemical preservative may be canned, but without it will not keep. All the honest manufacturers who do not fear honest competition, were with Dr. Wiley in his ruling; they welcomed it as a relief from dishonest competition. But the kickers won the day and a special commission was appointed to study the matter and report to the Secretary of Agriculture, who is Dr. Wiley's chief. That special commission has just

reported and their findings completely reverse Dr. Wiley's. This is a very great misfortune; not that it should appear that benzoate of soda is harmless, but that dishonest manufacturers should be given the opportunity to use a lot of rotten or half rotten stuff and get it on the market and so into people's stomachs by the use of benzoate of soda. But, fortunately, such manufacturers must print upon the label the fact that the goods are preserved with benzoate of soda, and the quantity; and we suspect that a good many people will, in time if not at once, learn to look for the label on the package and will discard the goods of such doubtful quality that they need a chemical preservative. And furthermore, the honest manufacturers will make, indeed they already are making, use of the facts as good advertising; they are forcing attention to the fact that by using good material and proper and cleanly methods, they are putting out articles that do not contain benzoate of soda or any other doubtful chemical substance. Of course the opposition is gleefully making every possible use of this decision in its renewed attempts to discredit Dr. Wiley. But we are of the opinion that Dr. Wiley, having the support of every right thinking person, will survive this opposition and will continue to administer the law in an honest and sane manner. All success to him.

A car has been fitted up and is to be taken from place to place by the railroads, for the purpose of giving demonstrations to the people, at close range, of some of the fundamental and more important

#### DEMONSTRATIONS ON HEALTH.

facts relating to public health matters. The credit for this enterprise is largely due to Dr. Colby Rucker, of the U. S. P. H. & M. H. S., who has been stationed in San Francisco for some time past as Dr. Blue's executive officer in the anti-plague work, and to Dr. N. K. Foster, Secretary of the State Board of Health. Of course the car will be accompanied by lecturers and demonstrators who will explain the various exhibits and give practical and helpful lectures anent them. This should be only the beginning of a campaign, definitely planned and consistently executed, to bring common sense to the people and in a way that they will be compelled to understand. The general lack of knowledge pertaining to the most absurdly commonplace facts of sanitation, is shocking. In these opening years of the twentieth century, it is worse than a disgrace to see the legislators of a great state like California, calmly passing a law doing away with the people's only safeguard against epidemic smallpox—the compulsory vaccination law. But they are ignorant of the facts. The people also are ignorant of the facts, for it is probably safe to presume that the general average of intelligence of the legislators is at least as high as, if not higher than, that of the general people. They all need instruction and advice, and while it would be easy to give this, could one secure the audience, it remains difficult for the reason that it is hard to



secure the audience. This traveling car scheme goes far toward securing the audience. Many people will come out of curiosity; but what matters it what the motive of their coming is, so long as they come—and learn something? Public lectures and meetings under the auspices of the various county medical societies will also do much, in the course of time, to awaken the public to the danger of its apathy. In some sections these public lectures have been undertaken by county societies; in others, the passage of this school car may awaken the county society to the importance of the work and thus do additional good. The plan is certainly one to be commended in the highest terms and all credit should be given to those who have worked so hard to secure the consummation of their ideas. The railroads, quickly seeing the import of everything that will make for the general improvement in public health conditions, have cheerfully given the car and will as cheerfully haul it about the state.

To comment upon all the ways in which some of the smooth-tongued "detail men" administer foolish powders to physicians, is quite **THE WISE DOCTOR?** impossible, though for several years the JOURNAL has been devoting more or less space to the interesting subject. In San Francisco, and doubtless in other parts of the state, there has recently been exhibited some activity on the part of the agents of a concern that might well be known as "The Company for the Exploitation of the Foolishness of Physicians." The stuff is called "pinoleum," and it is recommended as a bland and healing oil, containing some essential oils; it comes in a nice package containing the oil-atomizer and a bottle of the "stuff." The credulous physician is urged to order the package just as it is put out, as thus the patient gets his atomizer and his oil at the same time, which is convenient. But the agent who visits the physician making this excellent (?) suggestion, and who gives the physician an order on the pharmacist for a package free, does not refer to the extremely edifying circular that is considerably placed in the box by the manufacturer. By the time your patient, now become the happy possessor of a "pinoleum" outfit, has finished the careful reading of this circular of information, he knows more about what is the matter with him and how it should be treated than you do. Also, he knows just what "pinoleum" is good for (and that is almost everything above the neck), and he goes happily upon his way prescribing for all his friends who will listen to him. We are waiting with interest for the appearance of the progressive manufacturer who will dispense in the package with a bottle of castor oil, a Complete Treatise on Home Medication, or Everyone His Own Physician.

Prof. Irving Fisher, of Yale, President of the Committee of One Hundred on National Health, has presented to the heads of **LENGTHENING HUMAN LIFE.** various insurance companies a definite statement as to the relation of tuberculosis to insurance companies, based on the purely commercial proposition of lengthening human life and thus making money for the companies. "The Prudential Company pays out annually \$800,000 for death claims on account of tuberculosis, a disease which is known to be preventable." That puts it in a very definite way; nearly a million dollars paid by one company alone for lives that might have been materially lengthened. The proposition has been put up to the insurance companies to subscribe large sums of money (but a fraction of a percent of their insurance) in the campaign for the prevention of tuberculosis. How they will respond to this demand is as yet not known, though it is commonly reported that many of them are strongly impressed with the showing made by Prof. Fisher and have under advisement the definite prosecution of such work. It would seem to be an obvious means of saving many dollars to the companies and, therefore, to the policy holders; for when the companies make more money the insured participate to a certain degree in the benefit. Two cents a year per \$1,000 of insurance is suggested as sufficient to raise a very large fund and one that would be used to the great profit of the companies.

Why do physicians allow laymen to do a not inconsiderable portion of the practice of medicine?

**WHY NOT?** Dr. Laertus Connor, of Michigan, has asked this question a number of times and has given much of his energy to its discussion. Take, for example, the matter of fitting glasses. Itinerant peddlers of glasses exist in every part of the country. In small towns the local jeweler is the optician. Now, it is not argued for a moment that every physician should or could be a first-class oculist; but where is the physician who, with a little time given to a study of the elemental principles, could not become in a short time a better fitter of glasses than the average itinerant or town jeweler? And furthermore, the physician doing this work would be an added protection to the public, for he would recognize complications of a serious import more quickly and more surely and thus send the patient to an oculist at an earlier date, than would be the case with the entirely uneducated town jeweler. There really seems to be no good and sufficient reason why physicians scattered about the country in small towns or isolated villages and hamlets should not take up this, devote a little time and study to the simpler portion of the art of refracting, and thus return into the domain of medicine a very large amount of work that has fallen into the hands of charlatans and simple merchants. Why not increase your income and improve your position, if you are located in the country, by taking up this line of professional work?



## PROGRAM

### THIRTY-NINTH ANNUAL MEETING MEDICAL SOCIETY, STATE OF CALIFORNIA.

Below is given the program for the scientific sessions of the State Medical Society at its 39th meeting in San Jose on the 20th, 21st and 22d of April. While the scientific exhibit will probably be somewhat larger than indicated, no material change will occur either in the way of an increase in the number of papers to be presented, or in a change of position of the various papers in the different sessions. This program is complete with the exception of six papers which have been arranged for, but the exact titles of which are still lacking. These with the names of their authors will be inserted into the program obtainable at the meeting.

The attention of members and contributors to the program is respectfully called to the following points. The various sessions will begin promptly at the hours specified. In the interests of a rapidly moving and good program, the reading of all papers is restricted to ten minutes. Discussions are limited to five minutes for each member taking the floor. Authors who fail to be present at the time set for the reading of their papers are not promised an opportunity to present them at a later session. Absent members may have their papers read for them if they will mail them early to any member of the Scientific Program Committee.

As the scientific exhibit will be open throughout the session, the contributors to the exhibit are asked to have their material ready for public inspection not later than the evening preceding the first day's session of the Society. Ample room and exhibit tables will be available at the hotel for these exhibits, but the exhibitors are asked to bring with them or send with their exhibits all necessary accessories.

So far as possible, errors in the following program will be corrected before that to be used at the San Jose meeting is issued if prompt word is sent to the Chairman of the Scientific Program Committee, Dr. Martin H. Fischer, Union Savings Bank Building, Oakland.

#### FIRST DAY.

April 20, 1909.

#### Morning Session.

9:30 A. M.

101. The Address of Welcome.  
**Dr. William Simpson** (San Jose).
102. The President's Address.  
**Dr. W. W. Beckett** (Los Angeles).
103. Report of the Committee on Public Policy and Legislation.  
**Dr. F. B. Carpenter** (San Francisco).
- 103a. Report of the Committee on Medical Education.  
**Dr. F. Dudley Tait** (San Francisco).
104. Report of the Committee on Tuberculosis.  
**Dr. George H. Evans** (San Francisco).
105. Report of the Committee on Public Health.  
**Dr. Fitch Mattison** (Pasadena).
106. Report of the Committee on Cancer.  
**Dr. W. Francis B. Wakefield** (San Francisco).

107. Report of the Committee on the Venereal Peril.  
**Dr. A. B. Grosse** (San Francisco).
108. Leprosy (with Demonstration).  
**Dr. W. A. Clark** (San Leandro).
109. The Relation of Rat Leprosy to Human Leprosy (with Demonstration).  
**Dr. William B. Wherry** (San Francisco).
110. Filariasis (with Demonstration).  
**Dr. Herbert Gunn** (San Francisco).
111. Amoebic Dysentery.  
**Dr. John D. Long**  
(United States Public Health and Marine Hospital Service).

#### Afternoon Session.

2:00 P. M.

The sessions of the Eye, Ear, Nose and Throat Section and the Genito-Urinary Section occur at the same hour. The place of meeting of each of these sections will be posted.

#### The Genito-Urinary Section.

This will be a joint meeting with the Pacific Coast Branch of the American Urological Association.

201. The Radical Treatment of Urinary Tuberculosis.  
**Dr. Geo. S. Whiteside** (Portland).
  202. The Conservative Treatment of Urinary Tuberculosis.  
**Dr. E. G. McConnell** (San Francisco).
  203. The Tuberculin Treatment of Urinary Tuberculosis.  
**Dr. F. M. Pottenger** (Monrovia).
- Discussion to be opened by Dr. Herbert C. Moffitt (San Francisco).
204. The Uses of Bacterial Vaccines in Urinary Diseases.  
**Dr. Granville MacGowan** (Los Angeles).
- Discussion to be opened by Drs. George H. Evans (San Francisco) and George F. Reinhardt (Berkeley).
205. Chyluria with a Vesical Sinus.  
**Dr. Saxton Temple Pope** (Watsonville).
  206. Two Cases of Leukoplakia (with Demonstration).  
**Dr. A. B. Grosse** (San Francisco).

#### The Eye, Ear, Nose and Throat Section.

301. Chronic Suppurative Otitis Media from a Medical Standpoint.  
**Dr. H. C. Moffitt** (San Francisco).
- Discussion to be opened by Dr. Dudley Fulton (Los Angeles).
302. The Predisposing Causes of Chronic Suppuration of the Middle Ear.  
**Dr. G. P. Wintermute** (Oakland).
- Discussion to be opened by Dr. D. H. Trowbridge (Fresno).
303. The Pathology of Chronic Suppuration of the Middle Ear.  
**Dr. W. E. Hibbard** (Los Angeles).
- Discussion to be opened by Dr. Barton J. Powell (Stockton).
304. The Treatment of Chronic Suppuration of the Middle Ear.  
**Dr. M. W. Fredericks** (San Francisco).
- Discussion to be opened by Dr. H. G. Thomas (Oakland).
305. Cerebral Complications Due to Chronic Suppuration of the Middle Ear.  
**Dr. Louis C. Deane** (San Francisco).
- Discussion to be opened by Dr. A. Galbraith (Oakland).

306. Eye Symptoms in Cerebral Complications Due to Chronic Suppuration of the Middle Ear.

**Dr. Vard Hulén** (San Francisco).

Discussion to be opened by **Dr. John Harold Philip** (San Francisco).

307. Indications for Operative Interference in Chronic Suppuration of the Middle Ear.

**Dr. E. C. Sewell** (San Francisco).

Discussion to be opened by **Dr. Hill Hastings** (Los Angeles).

308. The Different Operations for Chronic Suppuration of the Middle Ear.

**Dr. H. Bert. Ellis** (Los Angeles).

Discussion to be opened by **Dr. Redmond Payne** (San Francisco).

309. An Analysis of Ninety-five Radical Mastoid Operations.

**Dr. Cullen F. Welty** (San Francisco).

Discussion to be opened by **Dr. Kaspar Pischel** (San Francisco).

310. A Case of Transient Cycloplegia Due to Glycosuria.

**Dr. W. H. Roberts** (Pasadena).

311. Visible Movement of Blood in the Retina.

**Dr. C. S. G. Nagel** (San Francisco).

## SECOND DAY.

April 21, 1909.

## Morning Session.

9:00 A. M.

401. Congenital Dislocation of the Hip. A Report up to the present of the results of the reduction through an incision.

**Dr. Harry M. Sherman** and **Dr. Geo. J. McChesney** (San Francisco).

402. Experimental Data. (Electric Sleep and Electric Analgesia.)

**Drs. F. Dudley Tait** and **Raymond Russ** (San Francisco).

403. Passive Motion.

**Dr. S. J. Hunkin** (San Francisco).

404. The Correction of Flat and Pronated Feet.

**Dr. George A. Harker** (Oakland).

405. Surgical Treatment of Tic Douloureux.

**Dr. C. D. Lockwood** (Pasadena).

406. The Incidence of Malignant Disease in Childhood.

**Dr. William A. Edwards** (Los Angeles).

407. Surgical Operations in Infancy with Report of Cases.

**Dr. William W. Richardson** (Los Angeles).

408. Post-operative Phlebitis, its Etiology, Pathology and Frequency.

**Dr. C. G. Levison** (San Francisco).

409. Roentgenographic Findings in Fracture About the Elbow Joint.

**Dr. Albert Soiland** (Los Angeles).

410. The Open Treatment of Fractures of the Femur.

**Dr. Le Moyne Wills** (Los Angeles).

411. Gonorrhea and Pregnancy.

**Dr. Alfred Baker Spalding** (San Francisco).

412. The Diagnosis of Solid Tumors of the Ovary.

**Dr. August Jerome Lartigau** (San Francisco).

413. Some Special Surgery of the Uterus and Broad Ligaments.

**Dr. H. P. Newman** (San Diego).

Discussion to be opened by **Dr. W. F. B. Wakefield** (San Francisco).

414. Persistent Thyroglossal Duct.

**Dr. J. Henry Barbat** (San Francisco).

415. Some Conservative Surgical Procedures for Protecting and Preserving Pelvic Organs.

**Dr. J. H. Sampson** (San Jose).

416. The Surgical Treatment of Stone in the Lower Third of the Ureter.

**Dr. Harold Brunn** (San Francisco).

417. Two Huge Calcified Cysts of the Urachus in the Same Woman. Operation; Recovery; Specimens.

**Dr. D. A. Beattie** (San Jose).

## Afternoon Session.

2:00 P. M.

## The Scientific Exhibit.

While the scientific exhibit will be open throughout the three days' sessions of the Society, special demonstrations will be made on this afternoon. Those responsible for the various exhibits will be present throughout the afternoon to explain them to interested visitors. As most of the exhibits cannot be demonstrated advantageously to the whole Society at one time, the demonstrations will be repeated before small groups not only throughout this afternoon but at other hours that may be arranged with those in charge of the exhibits.

500. Exhibit of the Public Health Commission of the Medical Society, State of California.

501. The Hendryx Laboratory of the University of Southern California Medical Department. **Dr. Black** (Los Angeles).  
Pathological specimens.

502. The Pathological Laboratory of the University of California. **Dr. A. F. Gillihan** (Berkeley).  
Microscopic pathological specimens.

The commoner pathological lesions of the human body will be demonstrated in this exhibit. The following is an outline of the specimens that may be seen under the microscopes.

## First Day.

Afternoon: Inflammation, degeneration and other morbid processes.

Evening: Lesions of the kidney.

## Second Day.

Morning: Lesions of the liver.

Afternoon: Lesions of the respiratory and circulatory systems.

Evening: Lesions of the alimentary tract and the pathological changes observed in the blood, in tuberculosis and in syphilis.

## Third Day.

Morning: Tumors.

503. The Pathological Laboratory of the Oakland College of Medicine. **Dr. Gertrude Moore** (Oakland) and **Mr. Finley Eastman** (Berkeley).  
Common gross pathological specimens.

504. **Dr. William B. Wherry** (San Francisco).  
Specimens of rat leprosy.

505. **Dr. Herbert Gunn** (San Francisco).  
Specimens of filaria.

506. **Dr. Ray Lyman Wilbur** (Palo Alto).  
Pathological specimens and X-ray plates.

507. Cooper Medical College. **Drs. Charles Miner Cooper** and **George Painter** (San Francisco).  
Diapositives, illustrating the value of the X-ray in diagnosis.

508. **Dr. George Martyn** (Los Angeles).  
X-ray photographs of tuberculous lungs.

509. **Dr. Le Moyne Wills** (Los Angeles).  
X-ray plates of fractures.

510. **Dr. Carl R. Krone** (Oakland).  
X-ray plates.

511. **Dr. Dorus Brumwell** (Kings City).  
Dissection.

512. **Dr. A. W. Lee** (San Francisco).  
Plaster casts of various pathological states.

513. **Dr. George A. Harker** (Oakland).  
Plaster casts of feet and orthopedic plates.

514. **Drs. H. A. L. Ryfkogel and H. Edward Castle.**  
Demonstration of arterial suturing.
515. **Dr. H. R. Oliver** (San Francisco).  
Demonstration of the spirochete and the Wasserman reaction.
516. **Dr. Jesse M. Burlew** (Santa Ana).  
Demonstration of the sporothrix, Schenkii, and pathological specimens.
517. **State Hygienic Laboratory. Dr. A. R. Ward and Miss Elsie Cole** (Berkeley).  
General exhibit.

**THIRD DAY.**

April 22, 1909.

**Morning Session.**

9:00 A. M.

601. The Value of Plaster Casts in Pathologic Study (with Illustrative Specimens).  
**Dr. A. W. Lee** (San Francisco).
602. Local Anesthesia.  
**Dr. V. G. Clark** (San Diego).
603. Dosimetric General Anesthesia.  
**Dr. Carl R. Krone** (Oakland).
604. Psycho-therapy.  
**Dr. W. Jarvis Barlow** (Los Angeles).
605. Psycho-therapy in Nervous Diseases.  
**Dr. Philip King Brown** (San Francisco).
606. Psycho-therapy.  
**Dr. F. M. Thomas** (Claremont).
607. Therapeutics.  
**Dr. J. L. Avey** (Redlands).
608. Alcoholism.  
**Dr. F. R. Burnham** (San Diego).
609. Results of Seven Years' Work in the Treatment of Alcoholism and Drug Habits.  
**Dr. R. E. Bering** (Tulare).
610. Obstruction of the Common Duct in Chronic Cholecystitis without Stone.  
**Dr. Andrew Stewart Lobingier** (Los Angeles).
611. Diphtheria at the Patton State Hospital.  
**Dr. J. H. Evans** (Highlands).
612. The Toxaemic Factor in Rheumatoid Arthritis.  
**Dr. Carl C. Warden** (Los Angeles).
613. Headache—A Symptom and Its Significance.  
**Dr. Frank W. Miller** (Los Angeles).
614. Professional Work as it Connects with the Medical Society and the General Public.  
**Dr. William Taylor Barry** (Santa Barbara).

**Afternoon Session.**

2:00 P. M.

701. The Treatment of Acute Infections with Bacterial Vaccines.  
**Dr. James J. Hogan** (Vallejo).
702. Colitis.  
**Dr. Dudley Fulton** (Los Angeles).  
Discussion to be opened by **Dr. E. Schmoll** (San Francisco).
703. The Treatment of Muco-membranous Colitis from the Standpoint of its Bacterial Origin.  
**Dr. Ray Lyman Wilbur** (Palo Alto).
704. A Phase of Irregular Inspiratory Murmur.  
**Dr. T. C. Edwards** (Salinas City).
705. Reverse Peristalsis.  
**Dr. Rexwald Brown** (Santa Barbara).
706. The Physiological Action of Strophanthus and Digitalis, (a) Experimental (b) Clinical).  
**Drs. Walter E. Garrey and Emil Schmoll** (San Francisco).
707. Galactotoxismus.  
**Dr. W. W. Roblee** (Riverside).

708. Meningismus.

709. Pulmonary Actinomycosis.  
**Dr. Langley Porter** (San Francisco).

710. Mercury for the Treatment of Tuberculosis.  
**Dr. Geo. L. Cole** (Los Angeles).

- Dr. G. G. Moseley** (Redlands).  
Discussion to be opened by **Dr. Hoell Tyler** (Redlands).

711. Pulmonary Tuberculosis as Affected by Some Concomitant Conditions.

- Dr. J. C. King** (Banning).  
712. Latent Tuberculosis, its Symptoms, Treatment and Prognosis.

- Dr. Max Rothschild** (San Francisco).  
713. Mixed Infections in Pulmonary Tuberculosis; their Vaccine Therapy.

- Dr. G. Martyn** (Los Angeles).

**ARTERIOSCLEROSIS.\***

For three decades and more the work of Gull and Sutton has dominated our conception of disease of the peripheral vascular system. But modern investigations of the peripheral circulation have made necessary a revision of the older views, not only regarding the significance of the clinical symptoms of arterial disease but also of our ideas of the pathogenesis of arterial lesions in general. This new knowledge has been gained, on the one hand, from the use at the bedside of improved mechanical appliances for the measurement and registration of blood pressure, and on the other hand, from experimental researches in the laboratory. With these advances new points of view have been gained which suggest possibilities heretofore little suspected. It is from this vantage ground that the author presents this small volume of 165 pages. In no sense an original contribution, modest in proportion and simple in style, the book contains a lucid, although brief description of the pathology of arteriosclerosis with its clinical manifestations.

A clear conception of the various pathological processes that may affect the arterial wall has been much hampered and obscured by the terminological confusion which has arisen in connection with the presentation and comparison of morphological and clinical phenomena of vascular disease. Heretofore, and to a limited extent, at the present time, the distinctions between atheroma and arteriosclerosis have been imperfectly maintained. In the light, however, of the comparatively recent work of Russell, Savill and others, the meaning of these terms may be clearly defined. The term atheroma should be restricted to a purely local affection of the arterial wall, characterized by a discrete, patchy, fibrous hyperplasia of the subendothelial connective tissue, with the production of localized thickenings of the tunica intima and prone to degeneration. The aorta, the larger systemic and cerebral and coronary vessels are the ones most commonly affected. On the other hand, arteriosclerosis consists of a more or less uniform thickening of the entire circumference of

\* Arteriosclerosis: Etiology, Pathology, Diagnosis, Prognosis, Prophylaxis, and Treatment. By Louis M. Warfield, A. B., M. D. Instructor in Medicine, Washington University Medical Department; Physician to the Protestant Hospital, etc. With an introduction by W. S. Thayer, M. D., Professor of Clinical Medicine, Johns Hopkins University. C. V. Mosby Medical Book Co., St. Louis, Mo., 1908.



the vessel wall. The middle muscular coat is hypertrophied, the subendothelial connective tissue is thickened, and sometimes there is hyperplasia of the outer coat of the vessel. In contradistinction to atheroma this lesion is encountered in the middle size and smaller arteries and there is little, if any, tendency towards degeneration.

While the pathological distinctions between atheroma and arteriosclerosis are clear enough their mode of origin is not so evident. Since Josue in 1903 published the results of experimental work on the production of arterial degeneration with adrenalin, numerous investigators—Zeigler, Erb, Stanton and Pearce, Fischer and others—have studied the subject with not altogether uniform results on certain important points. But it has been clearly demonstrated that more or less extensive degeneration of the blood-vessels may follow the intravenous injection of digalen, nicotin, phloridzin, adrenalin and some other substances. The degenerative changes are chiefly confined to the thoracic aorta, although they have occasionally been observed in the renal, mesenteric and other vessels. The lesions consist of small depressed areas, circular in outline, the floor of which may show aneurysmal bulging or distinct aneurysm. Microscopically, as had been shown by Zeigler, Erb and Stanton and Pearce, there is primarily a degeneration of the muscle fibres in the media, the intervening elastic fibres losing their wavy outline but otherwise undergoing no change. Lime salts are rapidly deposited in the area of muscle degeneration, the resulting rigidity of the vessel wall leading to transverse fracture of the elastic fibres. This process is thus confined primarily to the muscle fibre, the elastic tissue being secondarily involved. The adventitia and the intima are not involved, except in the process of repair, when, as has been demonstrated by Stanton and Pearce, the defect in the wall is obliterated by the cells arising from the intima.

The rapidity with which changes follow the injection of these various substances is, in some cases, quite remarkable. For example, Braun observed microscopic changes of the arterial wall following two injections, while Rzentkowski reports calcification as early as the fifth day. It would seem from the observations of Pic and Bonnamour, and Stanton and Pearce, that the age of the animals plays a part in the experimental results, for these observers found it was more difficult to produce arterial degenerations in young animals than in older ones.

Brilliant as have been the experimental studies in some directions, the mode of origin in man of both arteriosclerosis and atheroma yet remains an interesting speculation. The older view of Thoma who regarded the sclerosis as compensatory to the slowing of the blood stream from a primary dilatation of the vessels has been found inadequate. Russell in his recent work on "Arterial Hypertonus, Sclerosis and Blood Pressure" asserts that there is a generalized increase of the muscular layer and thickening of the intima due to the irritating effects of substances in the blood. However interesting these speculations may be, it is certain that the processes at work in the

production of arteriosclerosis in man still remain problems for further investigation.

Apart from a consideration of the results of recent studies of the whole subject of arterial degeneration in their practical applications, Dr. Warfield has dwelt upon some aspects of the question which can not fail to interest the conscientious physician. Not least among them is the problem of diagnosis. Are we not all, in the face of a symptom or symptom complex, only too ready to ascribe it to arteriosclerosis, when from a more searching and analytical study of the case another and truer explanation will be revealed? Is not the word itself too alluring and self-satisfying? The dangers, which in this direction, beset all to a variable, and the beginner to a harmful extent, are so admirably set forth by Professor Thayer in the Introduction, that the reviewer can not close without quoting some of its most pertinent parts.

"There is a despotism to which the greater part of mankind is enslaved, a despotism as absolute in the republic as in the autocracy—the tyranny of words. The thought or fancy unexpressed may have its passing influence; expressed, the mere sound of our own voice exercises upon us a subtle influence which, as it were, drives home the idea, while repetition fastens upon us an impression which, before we are aware of it, has become a conviction—a part of ourselves.

"A term which strikes the popular ear becomes soon associated, in the mind of the average individual, with an idea or picture which may vary greatly from that of his neighbor, and more yet from the truth. Nevertheless, time and repetition fix the idea until 'tis difficult to realize that the word has not to everyone the same constant and sharply defined signification.

"The prevalence of such words and expressions in medicine is familiar to all. These vary greatly in character and origin. Those of older years were usually expressions intended to describe groups of clinical symptoms and were based largely on purely hypothetical considerations. These terms must, of necessity, have been rather indefinite and uncertain in their application even among the medical profession, and much more so among the general public. Such is the commonest and most detestable of words which means everything to everybody and nothing under the sun in itself, 'Biliousness.' Such has been the term 'Malaria' in its popular sense. Such is often enough, the all too popular word 'Rheumatism.' In more modern times, with the development of knowledge of pathological anatomy and physiology, more accurate terms have come into medicine, some based on anatomical, some on physiological changes. Many of these terms have also passed over into popular usage. And while, originally, they designated specific anatomical conditions or physiological processes, the uninstructed public associate them naturally with groups of symptoms, and form many and varied ideas as to their significance. But to each individual the words mean something.

"All this has too often its repercussion on the

physician who, in order to satisfy his patients who demand a name for the symptoms from which they suffer, is led, almost unconsciously, to use a specific term in a general way to cover a variety of conditions in which perhaps the exact diagnosis may not be wholly clear, until, by force of habit and repetition, he finds a certain satisfaction in hiding behind an empty term, and becomes himself a victim of the tyranny of words. What an array of pathological processes have been dismissed under the specific diagnosis of 'gastritis' or 'neuritis'!

"The study of those changes in the bloodvessels, hyperplastic, degenerative, or inflammatory which are the inheritance of advancing years and have been so aptly called the 'rust of life,' is not new. The term 'arteriosclerosis' was used anatomically by Lobstin three quarters of a century ago, and the relations of arterial change to visceral disease have long been a fertile field for speculation and study. But the popularization of the term arteriosclerosis from a clinical standpoint is relatively recent. In later years, however, it has definitely caught the popular ear; it figures in the newspapers as a 'new disease'; it means something to each member of the public; it is a diagnosis satisfying the anxious friends of the patient. And too often the general diagnosis 'Arteriosclerosis' has come to satisfy the physician himself, who without finding a definite explanation of the obscure symptoms of the patient rests on his oars, with the constataion of the tortuous temporal or the palpable radial of the sufferer. The term 'arteriosclerosis' is fast coming to take a place near the throne once occupied by 'Malaria'; it is becoming a dangerous word." A. J. L.

#### VALUE OF THE MORO SKIN-REACTION AS COMPARED WITH OTHER METHODS OF USING TUBERCULIN FOR DIAGNOSIS IN TUBERCULOSIS.\*

By MAX ROTHSCHILD, M. D., San Francisco.

An exact and early diagnosis of any tubercular process is of the greatest importance for the patient as well as for the treating physician, and any method which can be of help in this respect deserves consideration.

Following up Doctor Alderson's paper it might be interesting to compare the different methods of tuberculin reactions in regard to their respective values, on which we depend for diagnostic and to some extent prognostic purposes.

The oldest and, I may state right here from a purely diagnostic standpoint, safest method is still the injection of tuberculin, either subcutaneously or intravenously. To 100 tuberculous patients I have given tuberculin injections for this reason and to get correct statistics I have given to 50 of these patients first a subcutaneous injection of tuberculin and after a couple of weeks, an intravenous injection, and to exclude the possible error in comparing these two methods, that a patient who has had one tuberculin injection may react quicker and to smaller amounts at a second injection, I have given to the

other 50 patients, first an intravenous and after two weeks, a subcutaneous injection of tuberculin. The conclusion of these tests shows:

1. The injection of a reasonably large amount of tuberculin gives positive diagnostic values. In two far-advanced cases, the patients did not react with a rise of temperature, but only with a general malaise that was also a positive proof for the presence of a tuberculous process.

2. About one-third of the amount of tuberculin, which was used subcutaneously, was sufficient to produce the same reaction if used intravenously.

3. The reaction after an intravenous injection of an amount that would correspond with about three times as strong an amount subcutaneously, appeared in the average about 8 to 16 hours sooner, and also disappeared much quicker; the negative phase was decidedly shorter, the positive decidedly longer after an intravenous injection, when corresponding amounts of tuberculin were used.

4. The intravenous injection is entirely painless. The local reaction after a subcutaneous injection—(I have used Koch's old tuberculin exclusively for these tests)—is always disagreeable, in some instances extremely annoying.

5. After a subcutaneous injection has once been given, the site of the injection often swells again and becomes painful at a second injection, may this be given again subcutaneously or intravenously.

6. An out-spoken general reaction after a subcutaneous, as well as after an intravenous injection, is always most disagreeable for the patient. To avoid such a reaction I use as small an amount of tuberculin as possible for the first injection. This has the disadvantage that in some obscure cases several injections with increasing amounts will have to be made, before a definite diagnosis can be obtained, and sometimes much valuable time is lost. In some cases it is impossible to avoid this.

Doctor Fehleisen sent a case to me with the probable diagnosis of tuberculous tendovaginitis of the right hand. The patient, about 60 years old, had a bronchitis and was hoarse, but he had been in this condition for several years without any alarming symptoms,—loss in weight, night-sweats or otherwise. Several sputum examinations showed no tubercle bacilli. Pirquet's and Moro's reactions negative. I injected first 1-10 of a mgm., 1 week afterwards 1-6, 1 week later 1-3 of a mgm. tuberculin intravenously with negative results. A week later I injected 1-2 mgm. intravenously, and the patient had a typical reaction and with it a large number of tubercle bacilli appeared in the sputum.

In 100 cases Calmette's instillation has been used, but besides my own tests I have taken into consideration the different publications of a great many writers on this subject, especially those of Wolff-Eisner. This reaction loses in value for different reasons.

1. The reaction, after the first instillation is often negative in absolute cases of tuberculosis not only of the third stage, as has been claimed by some writers on this subject, but also in cases of the first and second stages.

\* Read before San Francisco County Medical Society, November 10, 1908.

2. The number of cases that do not show any symptoms of tuberculosis clinically, and that react also negatively to several injections of tuberculin, and react positively to the instillations, was surprisingly large. A low estimate gives, in about 1-5 of all cases that show no symptoms of tuberculosis, a positive reaction.

3. The greatest disadvantage of Calmette's instillation is the extreme sensitiveness which most tuberculous patients show at a second instillation. And this oversensitiveness appears also in cases of tuberculosis, that did not react at all after the first instillation. The fact alone that some patients show, after the first instillation, most disagreeable symptoms for a long time, sometimes for 2 to 3 months, as strong conjunctivitis with pus and blood, and chemosis,—is sufficient to discredit this method. Some cases,—about 12,—are published in which a chronic phlyctenular conjunctivitis was the result of one instillation. But the real danger of the method lies in the possibility, that a second physician might give a second instillation for diagnostic purposes, not knowing that an instillation had been made before. This happened to one of my cases. I had made an instillation with negative result and had warned the patient,—who was evidently tuberculous,—that these tests were not entirely harmless. For some reason the patient went south a couple of days afterwards and was given there a second instillation into the same eye. A phlyctenular conjunctivitis set in of which she is still suffering to-day,—pretty nearly three months after the second instillation.

In 50 cases I have used Pirquet's scarification. This method is not dangerous, but it is not reliable, especially not with adults, and I have had the same experience with Lautier's method, which, however, I prefer to Pirquet's method, as it does not need any scarification. Lautier soaks a little cotton with a few drops of a 1% tuberculin solution, applies it to the arm of the patient and covers it with oil silk and a light bandage. The cotton is removed after 24 to 48 hours and in tuberculous patients one notices a more or less outspoken reaction, a diffuse redness which disappears quickly if one exposes the skin to the air. The patients naturally prefer this method to Pirquet's scarification, but it has one thing in common with Pirquet's method; according to my experiments it is not as reliable as it ought to be. Certainly not as reliable as the method which Doctor Alderson has described in his paper, and which I would like to discuss now,—Moro's percutaneous method.

I used this method for diagnostic purposes in 100 cases and I have come to the conclusion that, if used with proper discrimination, it can be well recommended for practical use. The ointment, if kept in a dark and cool place can be used up to six weeks. In cases that are not too far advanced, the method is, as far as I can see, reliable, and in those advanced cases the diagnosis can be made easily without the help of a sensitive test. In three cases of latent tuberculosis, where there were no evident symptoms at all, the positive reaction decided the

therapeutic use of tuberculin, and the quick and excellent result proved the exactness of the diagnosis. In quite a number of cases that had no clinical symptoms of tuberculosis and did not appear suspicious, the tuberculin ointment was used by Doctor Alderson as well as by myself, and there did not appear any reaction.

Besides being reliable, the method has the great advantage of the absolute lack of general or disturbing local symptoms, of the absence of any danger to the patient, and of the quickness in its appearance. It did not take longer than 48 hours in any of the cases to get a reaction,—the great majority of the cases reacted in 12 to 24 hours. Sometimes the patient complained of a light itching. The reaction shows well from 2 to 8 days, then it disappears slowly.

Doctor Dudley Tait called our attention to the fact that other bacilli or vaccine-ointments, might give similar reactions in respective infections, and so Doctor Alderson and I tried different ointments in some of my tuberculous patients that had mixed infections. We used streptococci, pneumococci, or gonococci ointments on one arm and tuberculin ointment on the other arm of the patients. While we got each time a positive reaction with the tuberculin ointment, we did not once get a reaction with any of the different other ointments. Some of the cases were quite interesting. One of them was a young sailor who had been under treatment for incipient tuberculosis of the left upper lobe about 15 months ago. Six months ago discharged, as there were no more clinical symptoms present. He went to sea again and was in good health when he returned about 6 weeks ago. Then he got a gonorrhea. We rubbed one arm with gonococci ointment with negative result and the other arm with tuberculin ointment with positive result. Two weeks later he sent for me on account of an outspoken gonococci arthritis. A second ointment test gave the same result as the first test, in spite of the fact that the gonococci infection had become general.

Another interesting case is that of a dentist who had been treated for about one year and a half on account of tuberculosis of the lungs in the second stage. Several sputum examinations had been made by Doctor Bixby. At the beginning of the treatment the patient's sputum was full of tubercle bacilli. After one year and a half treatment the patient's general condition was excellent. He had gained considerably in weight, had no more night sweats or shortness of breath, very little cough and very little sputum. This was examined again by Doctor Bixby, Doctor Abrahamson and myself and no tubercle bacilli could be found. A few days ago I had the sputum examined by Doctor Ophuls whose report reads, "Numerous diplococci and short streptococci; no tubercle bacilli in spite of careful search with mechanical stage." Then I rubbed the patient again with tuberculin ointment with a positive result and the rubbing with the other respective ointments gave negative results. In these cases, as well as in many other tuberculous patients that had been treated and were clinically free from any



symptoms of tuberculosis, a positive reaction followed after Moro's test. Some cases came under treatment that did not have any sputum at all, but other symptoms, as cough, night sweats, fever, loss in weight or hemoptosis. Moro's test was positive and decided the treatment. It is important that the ointment is prepared properly, otherwise the result will be doubtful.

As an illustration I would like to mention a case that Doctor Redmond Payne referred to me. A young woman with cough, expectoration and considerable loss in weight had been operated on by Doctor Payne on account of hypertrophied tonsils. The microscopical examination by Doctor Ophuls showed a tuberculosis of the tonsils. Several examinations of the sputum showed no tubercle bacilli. Doctor Payne tried the Moro test with negative result. He sent the patient to me for examination and I found a suspicious spot in the right upper lobe. I used the ointment and got a decided and quick reaction. The different results were due to the preparation of the ointments.

I have the decided impression that an outspoken reaction is a favorable sign in regard to prognosis. Most patients with far-advanced cases react very lightly or not at all. I cannot say the same of the Calmette reaction. Some writers, for instance Stadelman and Wolff-Eisner believe that a negative Calmette reaction, in definite cases of tuberculosis, is a bad prognostic sign. This cannot be accepted as a general rule. In about 50% of my cases of tuberculosis of the 3rd stage I have seen a negative reaction. Some of these cases grew worse rapidly and died, but some of them showed no ophthalmic reaction and got better. Others show an outspoken reaction and die quickly. The same can be said of the ophthalmic reaction in cases of the second stage. In the cases of the first stage I could not convince myself at all of any prognostic value of the Calmette instillation.

The Pirquet reaction seems to be more valuable in regard to the prognosis, but it is important to use weak solutions. I prefer a 1% solution of Koch's tuberculin in 0.9% normal salt solution, always make a control scratch and then scarify at another place through a drop of the tuberculin solution. If the reaction is outspoken and appears quickly, it seems to be a good prognostic sign and is in this regard similar to the Moro test.

In conclusion of this paper, I would like to state that it seems advisable to use in all cases that appear suspicious of tuberculosis, first the Moro ointment for diagnostic purposes, because it is quick, free from any disagreeable general symptoms, free from any danger, and reliable. If, in a suspicious case, the reaction should be negative, it is advisable to use an injection of tuberculin, either subcutaneously or intravenously,—1-10 of a mgm. intravenously, or 1-3 of a mgm. subcutaneously are sufficient in the majority of cases. The intravenous method is preferable for the reasons stated in the beginning of this paper.

## TREATMENT OF BURNS.\*

By CHESTER J. TEASS, M. D., Kennett.

My excuse, if any is necessary, for bringing to your attention the treatment of so common a condition as that of burns is due to the very fact of their importance through their frequency. Moreover, the literature upon this subject has been meager during my time of practice and I have yet to hear a paper read or a discussion of this subject before a body of medical men. Furthermore, I know of no condition in the whole category of surgical or medical nomenclature for which the lay public have such an inherent, fiendish abhorrence as for that of "burns." This may be due to that still lingering spark of superstition in the breast of humanity so firmly implanted by the clerical teachings of past ages. This wildly hysterical and fearful mental dread only adds to the physical shock when such accidents are encountered, and in this day of perfected surgical technic, is entirely unwarranted, because the vast majority of this class of patients can be rendered speedily and permanently comfortable.

Having been connected with smelter and railroad work for the past ten years, I have had a rather varied and interesting experience with "Treatment of Burns," and for my own part would much rather have a patient brought into the hospital quite severely burnt than one suffering from pneumonia, typhoid fever, etc.

The indications for treatment are:

- 1st. To relieve the pain and overcome the shock.
- 2nd. To prevent infection and thus prolonged sloughing.
- 3rd. To guard against congestion and inflammation of the internal organs.

Pain is relieved by any of the safe systemic methods at our command for the alleviation of pain and additionally by such local treatment as presently to be described. The first and foremost thing to keep in mind in the local treatment of burns is, that it is at all times essentially a surgical condition; hence it is of paramount importance to see that everything coming into contact with the wound is sterile.

Like gunshot wounds, the first dressings are the all-important ones, and for this reason we keep gallon bottles filled with a 4 per cent aquo-alcoholic solution of picric acid distributed in parts of the smelter where men are most exposed to the danger of burns and have all foremen instructed that when a man is burnt to cover his burnt areas and the clothing in their vicinity with the picric acid or yellow solution and then send him to the hospital without any further dressings being applied to the burnt surface.

We have the picric acid solution used first because it not only relieves the physical and thus the mental suffering, but because it is about the most penetrating and efficient surgical dressing we possess. I have never seen a case of infection follow its first application to burns, neither have I seen a case of poisoning follow its free and prolonged use,

\* Read before the Pacific Association of Railway Surgeons, 1908.

although I can conceive that some patients may have an idiosyncrasy for the acid as well as for any drug. If there is a granulating surface it is of little value; but there is another thing you can surely depend upon, and that is, when you have a wound covered with a moist picric acid dressing you need never fear an erysipelatous infection of that wound, for picric acid is a specific for the erysipelatous bacillus. Its only drawback is its property of staining yellow everything with which it comes in contact. In a measure, this objection can be overcome by the attendants wearing rubber gloves, but as the color cannot be detected by artificial light, extra precaution should be taken when using it at night. However, the yellowish discoloration of the skin may be removed by washing with alcohol or with a solution of carbonated lithium, or better still, a solution of ammonia.

Hence, it seems to me that as we possess such an all around, efficient and desirable remedy as picric acid for the first aid in such conditions, that it is our duty to have it in convenient shape for immediate application in all places where humanity congregates and where there is any likelihood to such accidents, for it prevents the kind friends from covering the burnt surfaces with such things as caron oil, lubricating oil or any other kind of oil or grease, or "Denver mud" and the like, which substances only hold the dirt there and thus interfere with the proper surgical cleansing of the wound, as well as being the cause of unnecessary pain.

When the patient is seriously burnt, as soon as he is covered with the picric acid solution, he has a woolen blanket thrown around him and is given a very hot drink, which will equalize the circulation to some extent before reaching the hospital. Here the wound is carefully freed from all foreign substances and the vesications are carefully drained, as their serum plus fibrin-ferment on coagulation forms an excellent culture medium. When large blebs form, the skin is left intact for protection, their lower margin being slightly punctured and their serum contents gently pressed out with a sterile gauze sponge. In the meantime the patient is being treated for shock by such cardinal principles as laid down by Crile of Cleveland. Now, if the burns are very extensive both as to degree and area, he is put into a warm bath where the temperature is aimed to be kept at about 100° F. during the shock and later never allowed to drop below 98½° F. The bath may have 4% boric acid or 1% sodium chloride added to it. According to Rose, the first record found in literature of treatment of burns by the continuous warm water bath is that by Pas-savant, who treated extensive burns by this method in the year 1857 (first published in 1858); but Hebra in 1861 wrote as follows: "The continuous full bath given for therapeutic purposes and kept up for days, weeks or months, has, as far as I am aware, never been tried or carried out by any one. The action of the continuous bath is manifold. It gives immediate and almost complete relief from pain and can be considered as a most excellent anodyne. Another advantage is that the water

penetrates the burnt tissues, in consequence of which they remain moist and soft, they detach themselves easily and are washed away after having become detached. Thus the wound is constantly kept clean and you do away with the awful dread to the patient of changing dressings."

Langenbeck, who in the year 1850 introduced continuous immersion as a method of treating surgical wounds, characterized it as the mildest method, not requiring dressings, securing clean wounds in a way which could not be surpassed in any other method. There are certainly many cases which would prove fatal without the advantage of this means. We know the serious effect of extensive burns on the nervous system, and here the continuous warm bath must be considered as the best of all remedies. When a part of the body is placed in warm water the nerve ends of the skin become irritated. This irritation is transmitted to the vaso-motor nerves and is followed by dilatation of the blood vessels and, consequently, by acceleration of the circulation. This accelerated blood circulation facilitates the elimination of the products of inflammation. These warm baths are a means to stimulate metabolism, the principal desideratum when we have to deal with severe injuries needing great recuperative power.

In burns that are less desperate in character we take pads of several thicknesses of plain sterile gauze and wring them out of hot boric acid, acetate of aluminum or normal saline solution, and cover the burns in such a way that only sections of the dressings need be removed at a time. Thus the patient is protected over the greater area of his body all the time. The gauze pads are kept constantly warm and moist by being replaced with new ones at frequent intervals. These moist gauze pads are covered by thick dry pads, made by wrapping absorbent cotton in sterile gauze, and over this is placed a layer of oil silk.

After the stage of shock has been passed and you are assured that none of the internal complications will supervene, the "open air method of treatment" will at times give the speediest and most satisfactory results. Of course, this necessitates a trained nurse in constant attendance, but any severe case of burn should receive such attention. The exudation of serum should be constantly sponged away by means of the sterile gauze sponges and the raw surfaces dusted with stearate of zinc. Again the great advantage of this treatment is that you save the patient the pain and the dread of removing dressings.

Where there has been charring with resulting deep destruction of tissues, it is advisable to dissect out such dead tissue as soon as it is consistent in order to prevent the drain on the system of the slow process of sloughing, as in this way you convert it into a clean surgical wound which can then be treated accordingly; that is, by such methods as the transposing of a flap or resorting to early "skin or egg grafting."

When the papillary layer is involved it can be best protected by rubber tissue in overlapping strips from half an inch to one inch wide, thus allowing

the escape from the wound of discharges which are immediately taken up by the overlying layers of gauze that are nowhere in contact with the wounded surface. The rubber tissue dressing, with its thick covering of sterilized material, acts as a substitute for the destroyed integument. If now the wound has really escaped being infected (which can be prevented by soaking the rubber tissue strips in a saturated solution of gum camphor in phenol), it will rapidly become covered by a renewed epithelial substance. When it is changed there is practically no pain and no hemorrhage whatever. It also prevents exhaustion, and probably eliminates this as a cause of death. Furthermore, there is a small amount of contracture. Where burns of other than an hospital nature are met with, especially of those where self-medication has resulted in inflamed margins, dirty grayish white bases and pouty, flabby red granulations with increased pain, we find that a pad of plain, sterile gauze saturated with a perfectly saturated solution of gum camphor in phenol gives almost magical results. The first dressing will cause some additional burning for about two to five minutes, and then the phenol acts as an anesthetic while the caustic properties are neutralized by the camphor. With this dressing it is surprising how comfortable a patient can remain with relatively large burnt areas while continuing at work. Upon change of dressings the wounds will be found to be surprisingly clean and drying over with considerable degree of rapidity. Especially is the treatment applicable to burns around the ankle and over all bony projections, as with burns in such locations it is more difficult for patients to keep at work.

I have not as yet reached that place in practical surgical results where I have completely discarded all ointments; for instance, where a patient has a rather large superficial burnt area and comes to the office for dressings. A piece of lint covered with sterile zinc ointment will be found one of the most convenient as well as satisfactory drying dressings we possess. Again where there has been numerous small deep burns, and where the edges remain thick and indolent we find the following stimulating ointment to be of value, viz:

R	
Acidi Borici .....	3 i
Iodoform .....	3 iss
Ichthyol .....	3 ii
Zinc Oxide Ointment.....	3 ii
M. ft. Ung.	

When the area burned is so extensive that the subsequent suppuration might prove too great a drain upon the patient's strength, and for any reason they could not be advantageously dissected out, or when the area occupies such a position that even if perfect healing should take place, the remaining cicatrix would be constantly exposed to ulceration through the effects of abrasion or would seriously interfere with the use of the limb, it would be advisable to resort to an early amputation.

So far I have spoken of external treatment only, but no article on treatment of burns would be complete without some consideration to internal treat-

ment. In fact, I can conceive of no condition of things that would warrant the neglect of the general consideration and management of every patient as an individual. So in burns of even moderate degree or numerous small burnt areas, the patient's secretory and excretory functions should be carefully watched, the circulation should be kept active in all parts of the body, the diet should be carefully regulated, the bowels should be thoroughly evacuated with repeated doses of calomel and tympny constantly kept down by repeated turpentine emulsion enemas; and for the first few days the patient should be put at absolute rest until the time for dangerous complications shall have passed, such as ulceration of the stomach and bowels (especially the duodenum), nephritis, meningitis, congestion of the lungs, and thrombosis. So we cannot too strongly accentuate the great importance of constitutional treatment.

It has taken some of us a long time to find out that everything that happens to a patient is not solely due to that which is done for him, but also as to the way in which it is done.

I wish to report briefly two cases only as they will illustrate what can be done in some apparently hopeless conditions:

In July, 1900, while in charge of the Iron Mountain Copper Company's Hospital at Keswick, Mr. P. M. was brought into the hospital with his left leg and foot fairly cooked from having endeavored to walk over the crust of a slag pot filled beneath with molten slag, the crust not having cooled sufficiently to sustain his weight, gave way precipitating his foot to the bottom with the result as stated. After the usual preliminary treatment in such cases, and when the foot and leg had become covered with healthy granulations, I curetted down to a healthy base and applied Thiersch's skin grafts, but as the weather was unusually hot I could not get the skin grafts to take, so I resolved to try the so-called egg-grafting, which is as follows, viz: Take a perfectly fresh egg and soak it in bichloride 1-1000 for three hours, then rinse in sterile water, open the shell under aseptic conditions, removing the lining membrane and placing it in normal saline solution. Now apply in the same identical way as the Thiersch graft with its inner and smooth surface next the clean base of the wound. In this case I was amazed at the rapidity with which new, healthy epithelial granulations formed around the islands of egg grafts, for within two weeks the patient's raw area was covered with a healthy epithelial covering, and this when I had seriously considered amputation.

Case No. 2. In December, 1906, Mr. C. C. F., while stooping directly under a blast furnace spout at Mammoth Smelter, at Kennett, had about fifty pounds of molten metal splash over on his head and back, setting his clothes on fire. He ran away from every one, and finally, after being caught, the remnants of his burnt clothes fairly dropped off his body. Upon arrival at the house I found the back of his head, ears and side of face, entire circumference of neck, shoulders and entire area of back and both elbows fairly seared white from the excessively hot metal. There were also numerous small and large areas of superficial burns of chest, abdomen, hands, legs and feet; so all in all, there was fully two-thirds of the entire area of his body burnt. At that time not having the conveniences of a hospital, it was out of the question to resort to the continuous warm water bath, so resorted to the hot boric acid pads of gauze. Our greatest difficulty was keeping him in a com-



fortable bed, as it was out of the question for him to lie on his back and with considerable difficulty on his abdomen; so we took large rolls of cotton batting and built the bed up high and narrow in its center. Thus by keeping two such beds freshly made up and changing him from one to the other once to twice in twenty-four hours, he was kept fairly comfortable. The first four days we had great trouble with his bowels and stomach; tympany became at times alarming and was constantly being fought by the high turpentine emulsion enemas, but after the fifth day we had very little trouble with him. By constantly changing the hot boric acid gauze pads the wounds were kept perfectly clean, a little of the white, dead epithelial tissue coming away with each change of dressing, and the remarkable thing was the great rapidity with which the burnt area was replaced by normal epithelial covering, and this without having to resort to any skin grafting, for within a little less than four weeks the patient was walking around with only more or less red areas of skin, a little thinning of the ears, and a rather thick, red skin over both elbows to show for his frightful burns.

#### Discussion.

Dr. Morton, San Francisco: I have been very much interested in this paper. It is one of the best papers I have ever heard on the subject of burns and the technic. With regard to the picric acid I have been using it constantly for a number of years and have always felt afraid of poisoning. I remember one case in the City and County Hospital years ago which developed symptoms of poisoning. I am very glad to know that the doctor has had no trouble with his large burns.

Dr. Teass, closing: The length of time allotted to the reading of the paper would not permit me to touch upon the pathology of the subject, but to the clear understanding of the application of at least part of the treatment, it is essential that we think of the changes that take place in some of the tissues following extensive superficial burns. Notwithstanding the enormous progress made by our modern laboratory investigations, it is most interesting to note that, at least in this instance, they have served only to corroborate ideas arrived at from the accurate deductions of clinical observation. For instance, Long, a well-known English surgeon, as far back as 1840 stated that clinically, as from their complicated effect on the internal organs, burns closely resemble acute febrile diseases involving the skin. Most text books attribute death to thrombosis, but thrombosis occurs at times only in the capillaries and veins of the internal organs. According to the best article I was able to obtain on the subject, viz: "A Study of the Visceral Changes in Extensive Superficial Burns," by Charles R. Bardeen (from the Pathological Laboratory of the Johns Hopkins University and Hospital), there has come into view the idea that after burns there come into existence and circulate in the blood toxic substances which give rise to the constitutional symptoms. The blood is markedly altered; its specific gravity is slightly raised, the erythrocytes are in part injured morphologically and functionally, and there is marked leukocytosis, chiefly of polymorphonuclear cells. Fragments of red blood corpuscles are collected in cells of the spleen, bone marrow and lymphatic glands; blood pigment is seen in the epithelium of the kidneys. The chief gross morbid changes are cloudy swelling of kidneys and liver, softened, enlarged spleen, and above all, swelling of the lymph glands and of the entire gastro-intestinal lymph follicles. Calvert found that a small arteriole runs to the center of each follicle in the lymph gland and here breaks up into capillaries which radiate out from the center and are collected into veins at the periphery of the follicle. The edematous swelling of the follicles is probably due to the plasma

escaping with much more than the normal rapidity from the capillaries radiating from the central terminal artery. The violent necrosis of the lymphocytes may be ascribed to toxic substances in the plasma. These lesions of the lymphatic tissue are essentially like those found in the lymphatic glands of children whose death has resulted from diphtheria. Personally I have had very little opportunity of studying the visceral changes following extensive superficial burns, for I am happy to state that of all the varied cases of burns that have come under my personal care I have to record but one fatality, and that was during my first year of practice. A little tot some two years of age had fallen into a tub of hot water and was quite severely burned. I knew nothing of the treatment of burns then, so used the old carron oil treatment. The child died of toxemia. I feel quite confident that if I had a similar case to handle to-day it would in all probability recover.

#### DECAPSULATION OF KIDNEYS—CASE REPORT.\*

By REXWALD BROWN, M. D., Santa Barbara, Cal.

Let me first place before you the case history:

Patient: Mrs. S. B. H., housewife, age 57. Kindly referred by Dr. H. L. Stambach, of Santa Barbara, in January of this year. Family history: Negative.

Personal history: a. Menstrual life ceased at 50 years of age; was always normal. b. No children; no miscarriages.

Previous illnesses: a. Scarlet fever, diphtheria and measles in childhood. b. Had attacks of migraine—headaches which vomiting relieved—from girlhood to the climacteric—they ceased at close of this period. c. When patient was 35 years of age, in 1886, she had attacks of severe crampy pain in left kidney region, often accompanied by vomiting. d. During the following year there were at intervals dull pains in left lumbar region and pain on urination—she often passed numbers of small stones—urine contained much pus. e. She was quite free from pain after this for two or three years; during this time she suffered a sunstroke, which compelled quiet for several months. f. In 1890 lumbar pains reappeared, and patient became a semi-invalid from continuous ache and soreness about left kidney. g. When 40 years old in the latter part of 1891, patient again suffered a very severe left lumbar colic, attended with vomiting, fever and collapse. She was confined to bed from December until the following March. Perinephritic abscesses developed, extending into loin and into left iliac fossa. A fistula opened through loin, discharging many stones; it healed in a couple of weeks. Following closure of first fistula, another opened above left iliac brim and discharged stones as large as peas, remaining open several weeks. Patient was told she could not live without operation, which she refused. In April and May patient began to get about on crutches.

Since 1892 there has not been a colic in left kidney region, though at no time has patient been free of a dull, dragging pain. Pus has appeared in urine at varying intervals.

Present trouble: In May of 1906, having undergone a severe strain for a year previous—illness of husband—patient consulted a Los Angeles surgeon because she had severe pain in left kidney, severe headaches had recently appeared, she had lost consciousness at times, and spots were appearing before eyes.

The right kidney was cut down on at that time and a letter from the surgeon said a modified Edebohl's operation had been done. Patient felt somewhat better after operation. The headaches were not so severe; spots before eyes grew more pronounced, however. In June, 1907, in Los Angeles, urine analysis showed—1000 c. c. examined:

\* Read before the Southern California Medical Society, Santa Ana, Dec., 1908.

1. Deficient total solids.
2. Deficient urea, .06 per cent.
3. Albumin trace.
4. Hyaline granular and epithelial casts.

In April, 1907, there was swelling in the right lumbar region which receded in a week's time—there was little pain with the swelling, but urine contained much blood and pus—there was also increased pain in left kidney at this time. From May, 1907, until February, 1908, conditions progressively grew worse. Eyesight failed markedly; patient could not read or write, and outlines of large objects were very dim. Headaches of a type altogether different from those she had suffered years before appeared—in December and January they occurred every two weeks or ten days, lasting two and three days, and were almost unbearable—vomiting, which accompanied them at times, gave no relief. Patient would be stupid and dull following the headaches. The left kidney region was the seat of constant pain and aching.

Examination revealed: Pulse of high tension—wirelike. Heart hypertrophied; valvular sounds pure. No superficial arterio-sclerosis. No edemas. Right kidney not palpable. Left kidney region tender. Eyes—by Dr. E. A. Dial—albuminuric retinitis. Urine analysis, 24-hour specimen: a. Amount, 1700 c. c.; b. color, turbid; c. Sp. G., 1010; d. total solids, much decreased; e. urea, .04 per cent; f. albumin present; g. no sugar; h. microscopical, 1. much pus; 2. granular and hyaline casts.

With the above facts to guide us we diagnosed chronic uremia on the base of a chronic interstitial nephritis; subsidiary to the main picture a pyelitis or a pyelo-nephritis, pointing to the left kidney because of the pain and tenderness, and yet not improbable in the right kidney because of the occurrence of swelling and hemorrhage a few months back.

A very sick and worn out patient exacted from us relief; death was preferable to her than life freighted with unendurable headaches; loss of sight and incessant pain in the back. The resources of medical treatment had achieved little in the amelioration of symptoms.

The gravity of her condition was fully explained to the patient. She was told that no known method of treatment could possibly obviate the certain death which awaited her, it might be very soon, at any rate not far distant. The facts concerning the surgical treatment of nephritis were given her for consideration; nothing was promised did she submit to surgical measures; however, from the statistics we could assure her of a limited degree of hope; we might be able to partially restore her vision and relieve the headaches and pain. The patient cheerfully welcomed the surgical chance and requested operation, not so much for hope of relief, but as her friends knew, more with the trust that the operative shock might relieve her of burdens through death.

Our justification for cutting down on the kidneys followed what we considered to be the true conditions existent, i. e., the anatomical changes and altered functions. We were reasonably certain of our conclusions, but yet not oblivious to Cabot's observations that the clinical features are not always the index to the lesion.

A short review of the case from the above history brings to the fore protracted inflammatory irritation to the left kidney—evidenced by the constant lumbar pain and irregular pyuria. The original calculus pyelitis instituted changes, which maintained, had insidiously developed a primary renal cirrhosis—we should not be surprised to find stones remaining and much scar contraction.

The absence of edemas in any area, the albuminuric retinitis, the uremic manifestations, i. e., the headache and vomiting, the urine analysis, the absence of hardened arteries and but moderately enlarged and perfectly compensating heart made fairly

certain the diagnosis of a primary sclerosis in the right kidney also—the pathogenesis was not so obvious. Yet certain factors could have been at work:

1st. The kidney was subject to ascending infection from the bladder, a pus reservoir at intervals; this undoubtedly produced a pyelitis in April, 1907.

2nd. The general blood stream could have carried mild toxic products absorbed from the left pyelitis, which, during the long period of twenty years, might have in their exit from the right kidney gradually produced indurative conditions, and

3rd. In long standing nephritis it is well known both kidneys are usually pathologically similar.

Primary sclerotic kidneys then being the basic condition, they interfered with free circulation of blood through them, and because of degeneration and pressure atrophy of the Malpighian bodies urea and other toxic products of perhaps equal or greater importance were deprived of filters and consequently retained in the blood stream. Headache we assumed resulted from brain irritation in two ways—through direct contact with toxic material, and through increased intra-cranial blood pressure, part of the general increased blood pressure. Theoretically, increased blood pressure in primary cirrhosis of the kidneys is due to increased resistance in the kidneys, compensating hypertrophy and work of the heart, and perhaps generalized angio-spasm from circulating toxins. Loss of vision seems possible of explanation on the theory of degenerative changes in the retinal blood vessels from the toxins.

The kidneys therefore were properly organs for operative interference: 1st. To increase their circulation and nutrition, thereby assuring relief of kidney and general tension, and also making possible renewal of parenchymatous activity, with attendant increased output of deleterious toxins; and 2nd, to find and make inactive the long continued irritation to the kidneys, and in so doing, relieve the nephralgia.

On February 17, 1908, patient was anesthetized at St. Francis Hospital. I cut down on the right kidney first and decapsulated it, and then did likewise on the left kidney. I also removed some fifteen or twenty small stones from the pelvis of left kidney and closed wound about a tube, which drained pus and urine for several days. The capsule of the right kidney bled very freely when incised.

The pathological findings were: Right kidney was of about normal size with a firm adherent capsule; much fat lay about the kidney and was particularly adherent to the non-peritoneal surface; the previous operation was perhaps a capsulotomy; pelvis appeared normal. Left kidney was very much contracted, the lower pole being entirely a cicatrix; the upper pole appeared to be secreting tissue; in the walls of the pelvis stones were imbedded and a small quantity of pus and urine escaped when the stones were removed; kidney lay in much fat and capsule was dense and very adherent.

The patient made an uneventful recovery from the operation and left hospital in three weeks. Within a month she was able to again read newspapers and write letters; vision returned to a remarkable degree, practically to normal. Headaches ceased altogether and did not reappear at any time during the remaining months of her life. Urine was free of pus in six weeks and remained so. Several examinations showed increased sp. g., increased total solids and increased urea, one time being 1.3 per cent; traces of albumin were always present, and, too, granular and hyaline casts.

Nephralgia did not altogether disappear and one day, some six months after operation, patient passed a couple of very small stones, giving us information that nephrolithiasis still existed. General arterial tension was markedly decreased, and did not again rise.

On October 15th, eight months after operation,

Mrs. H. died, death directly due to a weakened heart. Compensation signally failed in the last couple of months, transudates and edemas became permanent, and cardiac asthma became the prominent feature in the symptom-complex.

Autopsy practically confirmed the operative findings. Both kidneys were enveloped in a great amount of fat and capsules seemed reformed, but much thinner. Throughout the scar tissue of the left kidney were small cysts containing fine stones. Heart was hypertrophied; there was no general arteriosclerosis; aorta was somewhat thickened.

Decapsulation of the kidney as a therapeutic measure in Bright's disease has had few adherents in the past two or three years, and in the main the opposition is well grounded. It does not cure the disease, whose pathology is far from limited to kidney change. The above case is recited only to add to others similar in the literature, which speak for operation in well-selected cases, not with the expectation of cure, but as a palliative when all other means have failed. Can it do in even a percentage of cases what it did for this patient then truly decapsulation is a measure of much merit. So great was our patient's relief, that despite the asthma and edema, she longed to live, whereas before the operation death was greatly desired.

Uremic symptoms and retinitis in chronic nephritis foretell death. They are assumed to bespeak the failure of the kidneys to eliminate excrementitious products whose retention causes these symptoms. These effete products are chemically unknown; modern investigation does not believe urea to be the one deleterious agent; its decreased output, however, seems to be expressive of decreased output of the unknown poisons. If, therefore, by decapsulation urea output can be made to approach normal again, it seems rational to advocate this measure in cases in which the heart action is still good, little arteriosclerosis is present, and there is reason for a person living a few months longer, or having his eyesight preserved for some special purpose. By removal of the capsule there is renewed parenchymatous activity, partially perhaps by increased vascularization through the fatty capsule. Unfortunately a new capsule forms in a few months with resultant onward march of the disease.

Cushing and Bordley have lately advocated decompressive craniectomy in chronic nephritis with uremia and failing vision on the basis that local edemas exist in the brain and about the optic discs to explain the symptoms. This is undoubtedly true in many cases and the operation can be of value. In the cases where degenerative changes in the blood vessels from circulating toxins rather than edemas seem responsible, the proper field for operative attention is the kidneys.

In conclusion, surgical interference in Bright's disease should not be altogether discarded. It will be found of value in cases well chosen, not to cure, but to inhibit certain symptoms at least for a time.

### TYPHOID FEVER.\*

By E. C. TURNER, M. D., Sacramento.

While the subject of this paper is typhoid fever, do not expect even a description of the disease, for I would be practically "carrying coals to Newcastle" if I were to even attempt to give the symptoms of an infection that you have all unquestionably seen many more times than myself. Fortunately my position as host gives me a sort of mild dictatorship and allows me to dwell on only the points that I may care to. Consequently this essay will deal more with theories than facts, with debatable

ground rather than well-defined paths; and, it is hoped by the author, will lead to a great deal of valuable discussion rather than be in itself a thing of value. Trusting that you will pardon its lack of sequence and necessary brevity, I will proceed.

Etiology. In looking over the voluminous literature on the subject, I have been struck with the many ways that one may be exposed to the infection. Perhaps one of the most startling because seldom considered causes was taken up by Barringer (*Med. Record*—Dec. 19, 1903; p. 971) in a short article on the spread of typhoid by railroad coaches. In the day coaches, the discharges of the passengers (many of them convalescing from the fever and many more of them, judging from recent investigations, true "typhoid carriers") are dropped on the side of the track; in the Pullmans this is varied by adding water so that the excrements may soak further into the soil, or fall easier into the small stream or large river that the train may be passing over.

Since the bacillus typhosus has been known to live 17 days on cloth soiled by feces, months on the dry cloth, and none know how long it may live in the soil where conditions are favorable for its propagation, why are not track laborers more exposed to typhoid fever than any other class, and trainmen and travelers next?

Are we not subjected to danger every time we ride? In summer our train is sucking up quantities of mingled dust and feces from the dry road bed, and we are drinking out of dust contaminated cups, leaning against dirty cushions, and eating without trying to give the bacteria on our hands more than the customary "lick and promise"? That is a problem for our railroad brothers to answer.

In the early spring of 1905 the levee at Freeport gave way and the surrounding country was under water for several months. During the summer that followed, the County Hospital constantly had from ten to twenty-five typhoid cases, and in almost every case, the patient came from that portion of the country. Undoubtedly the wells in that low land were infected and just as undoubtedly, in my mind, the marked increase of cases in Sacramento during that summer was due either to milk contaminated by the enteric bacillus as in the case of Palo Alto in 1903 (Fish-Mosler-Snow), or from vegetables carefully washed before being sent to market.

Typhoid bacilli have been known, experimentally, to live at least 5 months in well water. Could it be possible that some of our wells in that district, recently closed by order of the Board of Health, could have resulted from that inundation? They also live from three to eight months in ice and snow, as some of the doctors here to-night can testify. How many of our cases of unexplained source of infection come from "natural ice" taken off the small ponds, camping places for invalids and health seekers in summer, and at all times close to the railroad? Remember that all ice is not necessarily sterile, and that our so-called "natural ice" contains quantities of "frozen snow" and dirt.

Pathology. How and where the germs get past the body's first defenses is still unsettled. Certainly in all other diseases of a like nature, the invading

\* Read before the Sacramento County Medical Society December 15, 1908.



organism must first find some breach or crack in the wall, and whether this exists in those susceptible or is manufactured by some toxin or mode of growth of the typhoid bacillus, is on the same debatable ground as whether the infection first gains access through the tonsil or through the intestine.

Nor is it necessary to have any visible lesions of the intestine in those having the disease as is sometimes supposed. (Thos. McCrae (Osler's Mod. Med.) reports four cases out of 105 with no intestinal lesions.) Also, ulcerations and other well marked destruction of tissues occur in many other parts of the body. (For example, Baer found ulcers of the larynx in 20 per cent of his cases.) In other words, typhoid fever is a general septicemia almost like diphtheria with a predisposition for certain distinct tracts of the body more than others. But let us briefly study the poisons of those two organisms and note their differences.

Living Klebs-Löffler bacilli throw off a poison or toxin which the body rapidly combats by forming an antitoxin. Living typhoid bacilli throw off little or no toxin in comparison, and it is not till their bodies are dead and broken up that a toxin of a proteid nature is given off, and this according to Vaughan (*Am. Jr. of Med. Sci.*, Sept., 1908) is in combination with a residue which, in small quantities, stimulates proteolysis (or the splitting up of the proteid poison into simpler bodies), but in larger quantities increases the susceptibility of the host.

So the incubation period of typhoid is really one in which the bacilli are not only multiplying, but in which the blood and organs are developing more complement for this bacteriolytic action to take place and the fever which follows signifies that a destruction of bacilli in quantities is certainly occurring.

The bacilli multiply in the body in places where the blood stream is quietest. (McCrae Osler Mod. Med.), and as a result, our typhoid complications resemble nearly any other kind of septicemia.

Regarding the intestinal lesions and especially Peyer's patches, in this light, we will find that Baumgarten years ago and many others since (Pratt-Peabody & Long, *Jr. A. M. A.*, Sept. 7, 1907) considered them as metastases, rather than as primary lesions, and indeed it is hard to think of them as anything else when we think of the numerous cases of typhoid cholecystitis, who discharge such enormous quantities of bacilli through their intestines without any lesion of the gut (Barlow; *Medicine*, 1903, LX, 734).

Probably the ulcers are formed very much like gangrenous appendices, by a shutting off of the blood supply. In this case, perhaps by the large endothelial cells, which undergo marked proliferation in the disease or from the toxins, pressure from congestion, or from thrombi formed by the bacteria themselves.

Strange to say while cultures may easily be obtained from the neighborhood of the ulcers, the ulcers have few or no typhoid bacilli, although

containing many secondary invaders (V. Drigalski; *Centrl. & Bakt.*, 1904, XXXX, No. 6).

Another peculiar thing about the disease is that the bacilli are very numerous in the gall bladder, bile and first part of the duodenum and decrease in numbers as one examines the lower small intestine (Foster and Kayser; *Munch. Med. Wochochi*, 1905, page 1475), so that in some instances they are absent in the ileum.

I would like to consider some other matters at length; the worthlessness of the gall bladder as a functioning organ; lymphatic tissue in the liver; inflammation and destruction of blood forming organs with consequent leukopenia and anemia, and the possibility that the lymphatic apparatus keeps up a constant discharge of bacilli into the blood and so prolongs the fever, etc., but I know your patience will stand but a few words more in conclusion.

Treatment. A young doctor in San Francisco, a few years ago, accidentally drew some of a culture of typhoid into his mouth. Germicides were freely and instantly used and these were followed by large doses of the so-called intestinal antiseptics, to no purpose, for at the end of fourteen days he came down with typical symptoms and had the disease in a very severe form. Now if medicines of this character given long before the sickness, have no effect, what possible benefit can we expect from them, except perhaps that of slightly inhibiting secondary invaders, or of removing typhoid bacilli from the excreta? But will it do the last? I think we all know of the famous case of the cook in New York who, at the end of 600 days of very active treatment, has not had them disappear from her stools.

The so-called typhoid serums are still in the experimental stage, Chantmesse (*Med. Press and Circular*, London, Dec. 25, 1907), being about the only observer to report marked success, and the vaccines are only giving moderate results in cutting down the mortality in the British and German armies and are surely not practical for ordinary purposes.

Perhaps if a good bac. coli communes and streptococcus serum could be found, we would be more reasonably certain of saving many lives now lost through perforations really due to those secondary invaders. At present, nothing specific has been found and so treatment should be directed along the same lines as with any other septicemia, giving due regard to bowel involvement. In feeding typhoid cases, the keeping up of the body strength, as recently proposed, by large doses of milk sugar, is certainly worthy of consideration.

#### Discussion.

Speaking of typhoid without intestinal lesions, Dr. Twitchell reminded the society that the bacillus of para-typhoid was first discovered in an abscess of the sterno-clavicular articulation, and that while there was no doubt of the fact that there were cases of true typhoid without intestinal lesion, it must be remembered that some of these cases might be para-typhoid. He believed that we were only on the threshold of our classification of the typhoid fevers, which were many in number, with similar clinical courses. He believed that other bacteria in the intestine had a beneficial effect on the in-

testinal condition; that perhaps the lactic acid bacilli were among the number, and that accounted for the good results in feeding with buttermilk.

Dr. Jones reported that on the railroad service track men predominate among the typhoid cases, but whether due to exposure by occupation, less personal care, or drinking out of many streams of water he could not say. Engine men came next, but they drink out of engine tanks that are rarely cleaned. Most of the cases received are the so-called "walking typhoid" type and come in during the second or third week and so have a splendid chance to spread the disease before their arrival at the hospital.

Dr. S. E. Simmons thought that the causes of typhoid fever could be expressed in the quadrilogy of feces, flies, fingers and food.

Dr. James reported an autopsy of a case of typhoid with 7 perforations in which, although the patient had had ham and eggs 36 hours before death, there was no digested food.

Dr. Parkinson thought that the typhoid cases of the last few years were either milder or were modified in their course by treatment. He believed that intestinal antiseptics were of avail, although probably they had only a secondary action.

Dr. W. A. Briggs stated that he had seen two epidemics from milk and noticed many cases after the first early rains had washed feces into the small streams. He said in part: I have insisted on the advantage of treatment with phenacetin because of the extremely smooth course of the disease, for in a large series I have had a very low death rate and I believe that it has a very important place because 1st, the patient is absolutely free from delirium, and those delirious will be relieved; and, 2nd, pulmonary complications are almost universally absent and cough is very rare. Intestinal complications are also rare. In 210 cases, I have had but two cases of moderate hemorrhage, and they occurred in the first of my series, when treatment was not so systematic.

It is thought that phenacetin reduces the hemoglobin, but my last two cases had but a very slight change before and after treatment. In 210 cases I have had 5 deaths, two cases under my charge, from the beginning two coming from the country in the third week of the fever, and one dying from the shock as a result of a beating by a drunken husband.

I suggest that you begin with small doses of phenacetin and feel your way until confident. In a number of cases, I have given 120 grains a day for two weeks at a time, and in some 140 grains. As for its effect on the heart, I believe that the reduced temperature under its use more than overbalances the toxic results.

Dr. Nichol stated that nine-tenths of deaths occurring from typhoid fever in Sacramento were brought here from other places, and that really no statistics compare with Sacramento as to low typhoid rate.

Dr. G. A. White reported operating on five typhoid perforation cases; all died, but one died from a second perforation nine days later, a second from the fever alone, and a third lived twelve days and then died of hemorrhage.

Dr. Turner, in conclusion, called the Society's attention to the interesting fact that Adami (Montreal M. J., 1899), stated that colon bacilli in small numbers in healthy individuals are constantly finding their way into the finer branches of the portal circulation, and that one of the functions of the liver is to arrest the further passage of the bacilli into the general circulation. Perhaps this function in typhoid fever is the cause of the numbers of bacilli in the duodenum, and the intestinal juices must be credited with causing their deaths as they descend into the bowel.

## TUBERCULINS.

By FELIX LENGFELD, San Francisco.

Notwithstanding the extensive use of tuberculin therapeutically, many physicians are somewhat confused regarding the nomenclature, dosage, etc. The busy practitioner has no time to look up literature extending over a series of years in a large number of periodicals. Even when he does he finds the subject none too clearly treated, so that it seems advisable to embody a few facts in a short statement.

There are now five tuberculins more or less generally used. There are a large number of others, some entirely discarded, and some used by a very limited number of specialists, and of little interest to the general practitioner.

The five most used are Tuberculin (Koch's); the Tuberculin of the German Pharmacopeia, now often spoken of as "Old" or "Original" Tuberculin; Koch's New Tuberculin (three in number)—Tuberculin Residue (T. R.), Tuberculin Obere (T. O.), Bacilli Emulsion (B. E.), and last Denys' Bacillary Filtrate (B. F.).

The Original Tuberculin is made by concentrating and filtering a pure bouillon culture of tubercle bacilli, to which 5% of glycerin has been added. The bouillon is heated to 70 to 100 degrees and concentrated to 0.1 its original volume, so that the finished product contains 50% of glycerin.

This Tuberculin after apparently failing as a curative agent has been very largely used for diagnostic purposes. Recently it has again been taken up as a curative agent, the doses now given being very much smaller than originally.

Koch's New Tuberculin (T. R.), is prepared by rubbing up very finely powdered dried tubercle bacilli with water, and subjecting it to the action of a centrifuge, so that everything soluble goes into solution and insoluble residue is left. This residue is then further powdered and repeatedly centrifuged with a mixture of glycerin and water in which all is finely suspended. This mixture is the finished T. R. One cubic centimeter (T. R.) is obtained from each 10 milligrams of dried tubercle bacilli used. It does not, however, hold in suspension all of this, but merely the insoluble portion, which if separated would be about 2 milligrams.

Tuft's New Tuberculin (T. O.): This consists of that portion of the bacilli separated from T. R. in the centrifuge. A small quantity of glycerin is added and the liquid so diluted that each cubic centimeter contains the soluble portion of 10 milligrams of tubercle bacilli.

Koch's New Tuberculin (B. E.): This, as the name indicates, consists of tubercle bacilli powdered and suspended in a mixture of glycerin and water, 10 milligrams of dried bacilli to 1 c.c. B. E.

Denys' (D. F.): consists of the filtrate from a bouillon culture of tubercle bacilli, heat and preservatives being avoided.

Regarding the dosage of Tuberculin, much confusion has arisen in the use of the term milligram, and consequent doubt as to whether the quantity given referred to the Tuberculin as found on the market, or to the solid substance in the Tuberculin,

or the weight of tubercle bacilli represented by the tuberculin.

This would all have been avoided had the term cubic millimeter, that is the .001 of a cubic centimeter, been used, instead of milligram, which indicates weight. However, the mischief has been done, a clumsier term stands little show of adoption, and the term milligram will continue to be used as synonymous, in most cases, with cubic millimeter. Most of the confusion has perhaps been with regard to Koch's New Tuberculin. Excepting for a short period during which physicians were misled by a statement in some journal that Koch's Tuberculin contains 10 milligrams of bacilli substance to the cubic centimeter, there has been little doubt as to what was meant when 1 milligram of Old Tuberculin was mentioned. It meant .001 of a cubic centimeter of Tuberculin as found on the market.

Some of the early workers on Koch's New Tuberculin, probably considering the dilution more or less arbitrary, gave their quantities in terms of dried tubercle bacilli, so that the comparison of doses of Old and New Tuberculin became rather complex.

Even this was not universal, so that when a milligram of T. R. is spoken of it is a little difficult to tell whether .001 of a cubic centimeter of the finished product is meant or the equivalent of 1 milligram of dried bacilli, that is 0.1 of a cubic centimeter of the finished product. It has even been suggested that the dosage should be given in terms of the solid substance in the T. R., which would be still more confusing, for 1 milligram would then mean one-half of a cubic centimeter of finished product, and it would almost take a trained mathematician to compare the doses of the different Tuberculins. It seems best clinically to give the dosage in terms of the finished product, so that 1 milligram in every case indicates 1 cubic millimeter, or the .001 of a cubic centimeter; and the tendency is certainly in this direction.

For curative purposes, the beginning dose of all Tuberculins is very small, being from .0001 of a milligram to .01 of a milligram. This is gradually increased until the physician is satisfied that the maximum dose has been reached. The beginning dose of the Old Tuberculin is slightly larger than that of the others. It is best to begin with small doses even with it.

There has been considerable discussion as to the best way to dilute Tuberculin so that the very small doses indicated may be accurately given and the dose gradually increased without too much complication.

Koch's Original Tuberculin, even in diluted solution, is stable to heat and preservatives, and the solution may be kept for quite a time by the addition of one-half per cent carbolic acid or one-third cresol.

Koch's New Tuberculins must be handled more carefully. It is said that diluted solutions very soon decompose; and it is difficult to learn from the literature the temperature they will stand. The writer's experience shows that T. R., at least, in dilution as high as 1 to 16,000 may be heated to 60 degrees and will keep for at least two months in hermetically sealed bulbs. Such two months' old

solutions have produced a reaction with too large a dose.

I have no data on T. O. or B. E.

B. F. being prepared without heat or preservatives, it would seem wise to respect these precautions in its dilution. To dilute Tuberculins, normal salt, or a mixture of glycerin and water may be used. Two principal methods have been proposed for so diluting Tuberculins that the dose may be gradually and mechanically raised. These may be called the geometrical series and the decimal series. In the decimal series, solutions are prepared containing 1 c.c. of the Tuberculin in 10, in 100, in 1000, etc., c.c. of finished solution. With a beginning dose of .0001 of a milligram, solutions 1 to 1,000,000 are first used, beginning with 0.1 c.c. the dose is increased each time by 0.1 c.c. until 0.9 have been given. Then dilution 1 to 100,000 is used, the 0.1 c.c. being given, and so on down the series.

In the geometrical series the Tuberculin is diluted so that 2 c.c. equals 1 c.c. of Tuberculin; then 1 c.c. to 4 and to 8, and so on, doubling each time. In this series, beginning with an initial dose of .0001 of a milligram, the 0.1 of a cubic centimeter of dilution No. 21, which is almost exactly 1 to 1,000,000, is first used; then 0.2, then 0.3 c.c., then 0.4 c.c., then 0.5 c.c., then 0.3 c.c. of No. 20, 0.4 c.c. of No. 20, 0.5 then 0.3 of No. 19, and so on down the series, beginning always with 0.3 and going up to 0.5; or if the physician thinks it is easier to measure large quantities, he can run it 0.3, 0.4, 0.5, 0.6, 0.8 and 1 c.c., then 0.6, 0.8, 1 c.c., etc.

Here again we have confusion in the numbering: In the decimal system it is customary to begin numbering from the most dilute. In the geometrical series the No. 1 is T. R. The latter seems more rational, because a further dilution can be added at any time. The geometrical series has another advantage over the decimal—the relative increase in doses is more nearly constant. Thus after the first three doses the increase is never more than thirty-three per cent and never less than twenty per cent of the preceding dose. On the other hand, in the decimal system the increase varies from eleven to one hundred per cent of the preceding dose. It may be urged that the geometrical series means too large a number of bottles for hospital or dispensary use. This may be obviated by keeping on hand only every third dilution, thus No. 21, 18, 15, 12, etc., beginning with 0.1 c.c. of No. 21, give 0.2 c.c., 0.3, 0.4, 0.5, 0.7, 0.9, 1.2, 1.6. This latter is equivalent to 0.2 of No. 18, therefore the next dose is 0.3 of No. 18, and so on down the series. In this way the increase is from twenty-five to fifty per cent of the previous dose. Other variations suggest themselves. The private practitioner will probably prefer to get his dilutions in bulbs or tubes holding from 1 to 2 c.c.

The question is frequently asked: What is to be done by the man who has a minim instead of a c.c. syringe? If he will use a minim for each 0.1 of a c.c. as given here, he will get the same result, although he will always be one or two doses behind the man with the c.c. syringe; his percentage of increase, however, will be the same, and that is the essential feature.



## FEE DIVISION.\*

By REXWALD BROWN, M. D., Santa Barbara.

It has become a practice in many communities—a practice which thrives in the dark—for certain surgeons to induce general practitioners to refer them patients for operation, the fee for the surgical care to be returned in part to the general practitioner; also for general practitioners to exact of surgeons for patients tendered to their skill a division of the operative fee in exchange for the favor shown.

This, gentlemen, is a traffic in human life—patients with ailments which only surgery can relieve are bought and sold. As the practice lacks any moral element, the sufferers who are the subjects of barter naturally become the patients of those who pay the highest commissions. As a rule these surgeons are the least skilled—thinking as they do of the financial value to themselves of an operation they neglect the niceties of surgical technic which so much concerns the future health and happiness of the patient, and even means the difference between life and death.

If all members of the medical profession should sink to this base level of commercialism, and cease to labor in the fields of altruism, heaven help the people! This is not said in antagonism to the use of business methods by physicians—rather would I insist on better business management in our dealings with patients, but let it be done in strict accord with the highest principles of sterling honor.

The physicians engaged in the fee-splitting practice have prostituted their noble calling. They look upon medicine and surgery as a purely business proposition. Consciences become seared by money grabbing, and the best interests of the patients are scarce thought of. Gentlemen, the practice is reprehensible, and has no moral justification. A laborer is worthy of his hire—the surgeon who tries to get a compensation somewhere near what his services are worth—and they are never too high, when a life is saved with resultant years of happiness to the individual and to his family—should not be compelled to give to the physician who did nothing but refer him the patient a large slice of the fee.

The physician receives something for nothing—the patient actually pays into the physician's pocket through the surgeon a compensation which is rightly the surgeon's. The physician actually collects from two parties for services rendered to neither—it is a species of graft.

The medical profession stands for the increasing of individual and racial happiness, stands for the prevention and abolishment of disease. It offers to humans weighted with illness, relief and cure consistent with modern knowledge and its application. To each member of the profession it is not given to labor with equal knowledge and skill for the alleviation of suffering. Opportunities, training and adaptabilities have not been the same.

The public has learned that the medical profession must be adequately compensated for work done in order that it may have the means to ever increase

by study and research the value of the services. This is not a selfish hold-up on the part of physicians, most of whom, did they devote the same thought and energy to other pursuits that they do to medicine, would perhaps be members of the wealthy classes.

Sick people prefer to be restored to health by those who are most competent to do so, and they are usually willing to pay a compensation commensurate with their means. It holds good in the medical profession as in all other spheres in life that some men will be better qualified to handle certain medical and surgical problems than will others. That they will be better paid for handling these conditions is part of modern social arrangements—the public expects to and desires to pay for actual value received.

A person naturally seeks a physician when he is ill. So great is his faith in the general probity of medical men that the average individual goes to the doctor nearest him, unless other circumstances send him to another practitioner, and relies upon him to direct the proper treatment. He places his life and well-being in trust. Nobly has the medical world merited this trust, keenly has it been alive to the sacred responsibilities of the calling. So utterly impossible has it been for any physician to be conversant with or able to handle all the special problems of medicine and surgery, that part of the duty of each has been to refer to better qualified men the patients whose illnesses are beyond his handling properly. It is a signal and unselfish service to humanity of which the profession is proud.

Only in this wildly commercial age, wherein money has seemed to be a god, have certain members of our glorious calling seen the possibilities of financial gain to themselves through trading upon the illnesses which patients in a supreme faith bring to them for cure. Such papers as this are written merely that we may not all forget the obligations of our work, our responsibilities to humanity. It is well that our medical societies should discuss the relations among their members and our relations to society. Only in this way shall we keep before us the "Gods of our Fathers."

Undoubtedly, fee-splitting may have some of its origin in the dissatisfaction of family physicians over what seems to be gross discrepancy between the fees they receive for months of service, and the fee which a surgeon receives from the same family for a single operation. Though this discrepancy be present it does not give the general practitioner a moral claim on part of the operative fee.

Each charges for his services according to standards of his own. The questions involved are—does the surgeon ask for more than he deserves?—does the general practitioner rate his services too low? In answer it may be said that the general practitioner in his heart of hearts knows that rarely is the surgeon unjust or excessive in his fees when the service is considered—rather the practitioner undervalues his own work, and knows that he has failed to educate the public to appreciation of his services which are of equal and often of greater value to society than are the surgeon's.

\* Read before the Santa Barbara County Medical Society, January 11, 1909.

Understanding this, does not the family physician demean his calling and demean himself in demanding and accepting commissions from the fee for surgical services rendered by another and justly belonging to him, when this same money—the commission—should have been his directly from the patient for the services which he has not taught the public should be rightfully paid for and for which he has not the courage to charge. Such services are for instance—1st, the making of the diagnosis, and the responsibility entailed in deciding the necessity for operation, and in selecting the right man to whom to intrust the patient's life; this service should be of great value, for the patient relies utterly on his family physician, as he himself is not competent to judge of surgical conditions and of operators—the physician must therefore be conversant with the work of surgeons, and this requires time, travel, study and money on his part that he may know; 2nd, for paving the surgeon's way with accurate data of the case and the patient's idiosyncrasies; and 3rd, for consultation after operation, etc.

Gentlemen, why should the surgeon collect for the general practitioner for these and other similar services? He is not a bill collector.

Let me state my convictions: If the public should ever come to believe that it is being deliberately sold by its family doctor in whom it reposes all confidence, to the surgeon who pays the highest commission and not to the one of greatest surgical skill and judgment, there surely will be an eruption, which will go ill with the general practitioner. He is seeking a betterment of his financial status, which is justly deserved, in an utterly inexcusable way, which will altogether defeat the desired ends.

A spirited and concerted opposition to lodge and club practice, to excessive output of poorly prepared doctors from inferior schools, and united action toward the enactment and enforcement of good medical laws which would shut out of practice much of quackery and charlatanism, can aid much in bringing the general practitioner into his own, and too, will mean increased lease on life and happiness to humanity. The family doctor has yet to learn, has yet to teach his clientele that his services should not be reckoned at so much a visit, but should be based on the broader ground of value received in staying disease processes, through a keen knowledge of the underlying pathology.

Thousands of physicians charge nothing on their books for diagnosis and for opinions relative thereto. Does the sick patient always derive more benefit from say, twenty visits at two or three dollars apiece, in which perhaps the pulse is felt and a little conversation thrown in, or from one or two visits in which complete urine, blood, stomach and other analyses are done, that a rational therapy may be instituted?

This latter type of service is the essential one to the patient, and for which he should pay—visits should be incidental. If the practitioner insists on fees commensurate with the importance of the case and the knowledge required to reach a correct diagnosis, there will be no reason for him to bleed the surgeon, who should justly have his deserts for the

work he does, and which the practitioner does not do, and is not qualified to do through lack of training.

Specialism exists in medicine as in all other pursuits, and it is not to the discredit of the general practitioner that he is not proficient in surgery. However, it is much to his discredit if he exacts tribute from fees which he does not earn. The mere fact that he is in a position to refer patients entitles him to no division. In the heart of the true physician there should be a quiet joy in being able to direct a patient to the hands of him who can give the relief he himself cannot. The mission of the medical profession is unselfish service.

Now, fellow practitioners, let me ask you a question. This is not directed personally, for Santa Barbara seems relatively free of the fee-splitting fever, I am glad to say. What course do you follow, when you need surgical attention? Do you not seek the surgeon whom you know to be utterly devoted to his work, scrupulously careful of every canon of surgical principle, and so interested in the welfare of patients that no thought of financial gain can bias his judgment? Of course you do, and you travel miles to him, consistent with your means.

Why don't you refer your surgical patients then to this man, or to those like him, consistent with their means? Most of you do—this is for the few who do not. You know that the consultant or the surgeon who offers commission, or from whom you exact commission, is competing with his more honorable colleagues on a basis other than that of professional character and skill. The reputable surgeons seek practice merely on their merits.

The fee-splitting surgeon takes an unfair advantage, and perhaps gains a practice more rapidly, but you know you have not all confidence in his judgment as to what is best for a patient, for you feel his judgment becomes warped as the prospect of a lucrative fee presents. But as you are looking too for your fee your conscience sleeps with the surgeon's. You deteriorate morally, and before you realize it you have deserted your surgical friend who has given you 50% for another who will pay you 75%. What betrayal of a patient's confiding faith!—the patient who thinks his family physician is all honor. What would his action be when death perhaps confronts him, did he know his physician was using him for bait to catch the highest bidder?

Many surgeons cannot bring themselves to the point of paying commissions outright, so they stretch the point to ease their consciences. The following substitutes have their champions: Some permit the general practitioner to transact all financial arrangements with the patient, the practitioner turning over to the surgeon an amount previously agreed upon between them—many give frequent and liberal presents to their friends, while still others request the general practitioner to be assistant at the operation of the referred patient, and perhaps direct the after treatment, for which he is paid a very liberal fee.

With reference to this last practice I would say a word ere closing. The placing of a knife into a human body is a serious matter. The responsi-

bilities of a surgeon exist from the moment the anesthetic is begun until he dismisses the patient wholly safe from any injury which could arise through his own manipulations or those of assistants. Life may be jeopardized not alone by the disease for which an operation is undertaken, but by lack of anatomical knowledge, by faulty technic, by imperfect asepsis, and by ill-judged treatment of conditions which arise after an operation, incident thereto, or to be considered with reference to the surgical problem present. The surgeon takes all the risk of both immediate and final failures, and with it loss of reputation. For the acts of his assistants he is wholly responsible. Should the general practitioner then feel slighted because the surgeon who, alive to all accidents which can occur in the surgical field, takes means to prevent them, in the interests of the patient, by having his own associates, trained to assist him as he desires, both during the operative technic and in the after care?

Insistence by the physician, not practically conversant with surgical principles and technic, upon being an assistant at operations, and upon giving orders during after treatment, without the concurrence of the operator, is distinctly troublesome, and often jeopardizes the patient's life and the surgeon's reputation. This may be a new thought to many, for the problem is comparatively a new one before the profession introduced by the widening surgical field. There is no doubt that the family physician will meet it aright, as the situation clarifies itself before him.

Fee-splitting of which the patient has no knowledge is a demoralizing and degrading practice, and evil are the consequences to the afflicted. The physicians and surgeons entangled in the meshes stand convicted of falling far from the teachings which rule the great body of medical men—the teachings of loyal and unselfish service.

### MEDICAL MILK COMMISSIONS AND THE IMPORTANCE OF A PURE MILK SUPPLY.\*

By WILLIAM L. HOLT, M. D., Santa Barbara.

I think we physicians hardly appreciate the importance of the milk supply as a factor in health and disease; and accordingly at the risk of being tedious I am going to consider the dangers of impure milk in some detail. There are four weighty reasons why the milk supply of any city or family is of the utmost importance.

First: It is one of the chief foods of most of our population and almost the only food of the infants. It is so easily obtained, easily prepared, easily digested, and cheap for its energy value of 20 calories to the ounce, and furthermore it contains the food constituents (protein, carbohydrate, fat, and salts) in such proper proportion and desirable form that it is beyond question the ideal food for most people of whatever age.

\* In this city excluding premature infants, 22 under 1 year died during the past twelve months out of 184 total deaths. This probably represents an infant mortality of 130 to 150 per 1000.

\* Read before the Santa Barbara County Medical Society.

Second: In our degenerate days, when, in the upper class at least, only one mother in four can nurse her child for a period of three months, the infants depend almost wholly from the first quarter on cow's milk for their food-supply. As Dr. McCleary has well expressed it, "The human infant tends more and more to become a parasite of the milch cow." And doctors should not need to be reminded how dependent the health and lives of our infants are upon the *quality* of the milk given them. It is a medical truism that the one great cause of the great infant mortality throughout the civilized world is dirty milk. I will cite a few statistics to show how great this mortality is among bottle-fed babies, most of whom are fed what must from a scientific standpoint be called dirty milk.

The average mortality of infants under one year in Germany is over 200 per thousand, which means that one out of every five children born there must die before it reaches the age of one year. Bergeron has expressed this terrible mortality among the newly-born most graphically thus: "The chances of a new-born child surviving a week are less than those of an old man of 90; of living a year, less than those of a man of four-score!" And the vital statistics of Berlin show that 90% of the 10,000 babies under one year of age dying there in 1900 were bottle-fed. The number of breast-fed babies who died during the year in Berlin was only 895. In Paris during the summer months of 1897 2840 infants died, and over 50% of them of diarrheal diseases. That these deaths were due to improper artificial feeding is clearly shown by the fact that only 10% of the infants dying of diarrheal diseases had been breast-fed. In France, where the infantile death-rate is much lower than in Germany or in the U. S., being only 137 in 1900, Chaterinkoff reports that of the 20,000 infants dying of intestinal diseases 80% were bottle-fed. Official statistics show that in Germany the mortality of bottle-fed infants during the first year is actually 51%; in other words more than half die during their first year; while the mortality of the breast-fed is only 8% or 80 per 1000. The infant mortality for the United States in 1880 was 246 per 1000; in 1890 it had fallen to 159 per 1000. During the same period the mortality in the cities of the United States fell from 303 to 184 per 1000. In 1900, however, the infant mortality was still above 150 in seven out of ten registration states. In the District of Columbia for 1900 the rate was 274.5, even worse than Russia's rate of 268. I am happy to say that the last report of the California Board of Health shows the infantile death rate for our state to be as low as that of France, 137.\*

In considering these appalling figures we must not suppose that such a high death rate need or does always obtain among bottle-fed babies simply because they are fed on cow's instead of human milk. It is always a considerable disadvantage to a baby to be deprived of its mother's milk, but experience shows that most children fed on pure cow's milk in accordance with the carefully worked-out principles of our modern specialists thrive very well, and



that it is not cow's milk as such, but dirty, improperly modified, or wrongly fed cow's milk that kills.

This is proved by the fact that improvement of infants' milk supply and teaching of mothers concerning the first principles of artificial feeding has in several of our American cities considerably reduced the infant mortality. Dr. L. Emmett Holt of New York, for instance, explains the diminution in the death rate of children under five in New York City from 97 in 1891 to 67 in 1900 as due in large measure to the betterment of the milk supply and the furnishing of pure milk gratis together with a general adoption during hot weather of some form of milk sterilization.

But the classical example of reduction in infant mortality accomplished by improvement of the milk supply is that of Rochester, New York. The average mortality there during the month of July in the six years preceding the establishment of the Infant Milk Depots was 94 total deaths among infants under one year. As Rochester is a city of about 200,000 people with five thousand births annually, this figure represents a mortality of 19 per 1000 infants for the hot month of July, which is a comparatively low mortality. But when Dr. Goler established his first Infant Milk Depots in Rochester for the distribution of pasteurized milk to the working people's infants, the mortality for the months of July and August fell to 43 and 44 respectively. This was in 1897, and the same low figures were maintained for 1898 and 1899, showing the reduction was not accidental and temporary. But Dr. Goler was not content with saving so many hundreds of babies' lives. He said: "Pasteurization is good for dirty milk, but why have filth in milk at all—why not aim at clean milk which needs no pasteurization?" Like all innovators and reformers he was considered crazy and denounced for experimenting with babies' lives.

But in the next year, 1900, the Rochester Academy of Medicine organized an active Medical Milk Commission which obtained a supply of pure certified milk, and Dr. Goler tried the "dangerous experiment" of feeding infants on pure, raw milk. The results soon justified his belief in its superiority, as these figures show. In spite of the growing population the total deaths of children under five years during July and August were only 223 against 368 for the average of the three years preceding. The deaths under one year were 50 for July and 54 for August, 1900, but in 1901 they fell to 37 and 38 respectively and the next year to 26 and 43.

The third weighty reason for a pure milk supply is the danger of disease being transmitted by the milk: viz. tuberculosis from the cows and the germs of typhoid, diphtheria, and scarlet fever from human contamination.

The importance of milk from tubercular cattle and indeed of milk actually containing bovine tubercle bacilli as a cause of tuberculosis in infants and children is unfortunately still not agreed upon by the experts in the question. On one side Robert Koch claims that although children are undoubtedly

sometimes infected by tuberculous cow's milk, such infection is so rare as to be nearly negligible compared with the frequency of their infection from human sources. At the other extreme is the other famous German authority, von Behring, who declares his belief that the great majority of all cases of tuberculosis are contracted in infancy by drinking tuberculous cow's milk. Dr. Theobald Smith, our leading American authority in this question, who first demonstrated the difference between human and bovine tubercle bacilli, takes a middle position, expressing himself as follows: "While racial differences probably prevent the absorption of bovine bacilli under ordinary circumstances, and a few bacilli are harmless, there is danger if the digestive tract is flooded with bacilli from the udders."

The experiments which have been made on a most extensive scale in the attempt to settle this vital problem are very interesting; here are the results of some of them. Guinea pigs, cats and apes are easily infected by tuberculous cow's milk, and it has been demonstrated repeatedly that the bacilli have the remarkable power of passing through the normal intestinal mucous membrane without leaving any lesion. In a series of sixteen young pigs fed on tuberculous cow's milk only one developed an intestinal lesion, all the others developed tubercular mesenteric or cervical glands. This fact, taken in conjunction with the finding by an English commission that 25 per cent of the cases of tubercular adenitis in the children examined showed the bovine type of bacilli, is pretty strong evidence that a large percentage of tubercular adenitis in children is caused by drinking tuberculous milk. Such experiments certainly favor von Behring's claims rather than Koch's. The fact that young animals are much more susceptible to tubercular infection through the alimentary canal than are adult ones points in the same direction, and confirms us in our belief that tuberculous milk is much more dangerous for infants and children than for adults.

Several English commissions appointed especially to investigate this question of the transmissibility of tuberculosis by cow's milk have all reported affirmatively, that there is real danger of infection by drinking tuberculous cow's milk. Finally we have the testimony of a number of human experiments, where infants were fed on tuberculous milk—accidentally of course—and where other sources of infection were satisfactorily excluded and tubercular lesions demonstrated at autopsy. In one such tragic experiment reported by a careful German authority as an unimpeachable case of milk-infection, four infants with no family history of tuberculosis were fed on raw tuberculous cow's milk and all died of intestinal tuberculosis; the diagnosis was established at autopsy in both the cow and the infants.

I will sum up the matter in the words of our great hygienist, recently deceased, Charles Harrington: "Some of these cases, if not all, may be accepted as very strong evidence that tuberculosis may be spread through the agency of milk."

We are apparently extremely fortunate in having only 2 per cent of our cattle tubercular according

to the tuberculin tests made this spring in our county. But since most of our States have a much higher percentage of tubercular cattle, running as high as 50 per cent in Massachusetts, only the greatest vigilance will keep our percentage so low. Dr. Salmon, Director of the Bureau of Animal Industry, reported the following results of tuberculin tests made in the various states in the year 1906:

State.	No. Tested.	No. Tuberculous.	Pct.
Vermont .....	60,000	2,390	3.9
Massachusetts .....	24,685	12,443	50.0
Connecticut .....	6,300	.....	14.2
New York, 1897-8....	1,200	163	18.4
Wisconsin: Experiment station tests on sus- pected herds .....	323	115	35.6
Nonsuspected herds..	935	84	9.0

Dr. A. R. Ward and Clarence M. Haring report in the August bulletin of our Agricultural Experiment Station, that during the past four years they have made nearly 2,000 tuberculin tests on cows in the various counties of the San Francisco Bay region and in the Sacramento and San Joaquin valleys, of which 453, or 23 per cent, reacted. Only four herds were free from tuberculosis. They consider that a more accurate statement of the prevalence of bovine tuberculosis in California, however, may be compiled from the results of tests made on whole herds the first time. And in this case the figures show 1,022 animals tested with 326 condemned, or 32 per cent. Only 18 per cent of all the herds tested were free from the disease. Few of the herds were suspected; most of them were tested in routine inspections for municipalities.

One fact concerning tubercular cattle I believe is not generally known by dairymen or physicians, but is of vital importance, viz: not only the cow afflicted with tuberculosis of the lungs or udder or whole system is liable to infect her milk, but any and every cow with tuberculosis of any organ whatever is likely to expel tubercle bacilli in her feces and so to infect her milk. For ordinary market milk usually contains more or less cow-manure, as shown by the Government examinations of the milk supply of Washington, which reported fecal matter in 70 per cent of the 172 samples examined.

I will not touch the great problem of the prevention and control of tuberculosis among cattle or the theory and practice of the tuberculin test. But I wish to emphasize the fact that, considering the real danger of infants and young children contracting tuberculosis from tuberculous milk, we physicians should consider it our business to eradicate bovine tuberculosis as a part of our great campaign against human tuberculosis. We should not think, "Oh! we are not concerned with cows; that is the veterinary's business and the dairyman's."

Besides tuberculosis the cow is liable to several other infectious diseases which may be transmitted to man by means of her milk. Most of these are fortunately rare here. They are actinomycosis, botryomycosis, foot-and-mouth disease, cowpox, rabies, milk-sickness or the trembles, gastro-enteritis,

sepsis, and mastitis or garget. The last mentioned—garget—is of importance because the streptococci which get into the milk in large numbers from the inflamed udder are liable to cause severe gastro-intestinal diseases in children.

Of the others, the trembles is an obscure disease which occurred in the Middle West in former years and caused a peculiar and very fatal disease in persons who drank the milk; outbreaks still occur in thinly settled parts of Tennessee and North Carolina, but it has never been reported west of Missouri and Arkansas. Hence it is only of historical interest.

Besides the infection of milk with the germs of bovine diseases, there are many objectionable and injurious changes which may occur in milk before it is drawn. Bitter milk may be due either to bacteria entering and multiplying in the milk after it is drawn, or to improper feed, such as lupines, Swedish turnips, or cabbages. Red milk may be due also to bacteria gaining entrance after milking, or to feed containing an excess of silica, such as sedges and rushes, or to madder root, but it is usually colored by the admixture of blood from the udder. And milk may actually be blue when freshly drawn, due to the entrance into the udder of *B. cyanogenes*. Moreover, milk may be easily given a bad flavor by feeding garlic, wild onions, moldy hay or grain, spoiled ensilage, or distillery grain. The obnoxious products excreted in such milk are mostly volatile oils contained in the food; and if the cows are allowed to wait eight to ten hours after feeding before milking, these objectionable flavors will have been excreted through the other excretory channels and the milk will not be injuriously affected.

The most objectionable feed in this respect is distillery swill, since it causes, in addition to a bad flavor, the secretion of a small amount of alcohol in the milk, and this is decidedly injurious to children and also to calves.

Furthermore, certain poisonous plants, as the poison-ivy and poison-oak and the common artichoke, cause toxic substances in the milk which produce severe gastro-intestinal disturbances.

And finally, the milk secreted for fifteen days before and five days after parturition—called the colostrum—has a strong odor, bitter taste and acid reaction, and is liable to cause colic, diarrhea and such digestive disorders.

Now let us suppose that our cows and their feed are blameless, and we have secured a practically pure milk in the pail. What are the next dangers? We will disregard for the present the contamination of the milk with the common non-pathogenic bacteria which will fall into the pail from the cow's udder and flank, the dust in the air, and the milker's hands and clothes, unless an airtight automatic milking machine be used or the greatest care is taken to have the cow, the air, and the milker scrupulously clean. Much more important is the danger of infecting the milk with the germs of one of the epidemic diseases, typhoid, scarlet fever, or diphtheria, and exposing hundreds of persons perhaps to death from one of these plagues. Since typhoid causes

more deaths than any other of the epidemic diseases in the United States, I will consider that first.

The census reports for 1905 show a death rate from typhoid of 28 per 100,000 population, which means that about 22,000 persons died in that year in our nation from this essentially preventable filth-disease. And 558 deaths from typhoid occurred in California in 1907. What a disgrace to our boasted American civilization! And it is estimated that about a third of all typhoid epidemics in this country are milk-borne. Milk, it must be remembered, is such a favorable medium for the *B. typhosus*, that a few bacilli mixed in a large volume of milk for a large dairy's supply will multiply so rapidly as soon to infect the whole amount, and so expose each one of that dairy's customers to the disease. The germs may get into the milk in any one of many ways: direct from the dirty hands of a milker who has been tending a typhoid patient or has the disease himself, from contaminated water used to wash the pails or bottles, or from the person who cools or bottles the milk, or even from the waitress in a restaurant who serves you. The chief danger of typhoid infection of milk is believed to be from patients in the early stages of the disease before a diagnosis has been made, or even in the incubation period, and also in convalescence when the patient is apparently well but is still discharging bacilli in the urine and stools. The agency of that noxious germ-carrier and peace-disturber, the common house fly, in infecting milk and other food with typhoid germs from feces should here be mentioned. Hence the requirement that all milk-houses shall be screened and flies also excluded from the stable as far as possible.

Dr. J. W. Trask of the Public Health and Marine Hospital Service, in the valuable and complete Government document, entitled "Milk and Its Relation to the Public Health," reports 179 milk-borne epidemics of typhoid fever, 107 of which have occurred in the United States since 1888. Four of these happened in our own state, one in McCloud, two in Los Angeles, and one in Palo Alto. In this last epidemic at Palo Alto the number of cases, 232, was the high proportion of 25 per cent of the total number of persons exposed by taking the infected milk. The circumstances of the outbreak at Oakland in 1893 give a good example of such milk-borne typhoid epidemics. Here 362 cases occurred in one month, May, 70 per cent of whom were consumers of milk from one dairy. An inspection revealed the following disgraceful state of affairs: Dejecta from a typhoid-infected house close by had been thrown on the ground close to a dam in the creek, from which a pipe conducted water to a tank for dairy purposes. This polluted water also flowed through the cow-pasture, and was undoubtedly the means of infecting the milk.

In the great majority of these epidemics the disease prevailed at the farm or dairy. In 54 cases the milk was contaminated by well-water, which shows the importance of a safe water supply in producing certified milk.

Next in frequency to typhoid come milk-borne

epidemics of scarlet-fever. Dr. Trask reports 74 of these, most of them in this country. The largest was in Boston and its suburbs in January, 1907. The outbreak was explosive in character, 227 cases occurring within four days. The water supply was above suspicion, and 195 of the cases (about 90 per cent) took milk from the same dairy. The original source of infection was not found; but as 222 farms were supplying this single large dairy, that is not surprising. This dairy sold milk also in three large suburbs, and in them 350 cases developed during the first twenty days of January, over 80 per cent of whom had used milk from this same dairy. No such epidemics are reported from California, and scarlet-fever caused only 72 deaths in the state in 1907, compared with 558 from typhoid and 380 from diphtheria and croup; but the danger of such milk-borne epidemics of this fatal disease must never be forgotten.

Milk-borne epidemics of diphtheria seem to be less frequent than of scarlatina; but Trask reports 51, one of which was in Los Angeles in 1903. Here 35 cases occurred within ten days in 33 families, all being supplied with milk from the same dairy, where Klebs. Loeffler bacilli were found in the throats of three milkers. The original source of the infection, however, was not found.

As we have recently suffered a small epidemic of diphtheria here in our own city, I will narrate the story of another milk-borne epidemic of this disease, which shows how extremely careful we must be in our disinfection of houses where milk is handled and milkers live. In Wellsville, New York, in 1906, forty-six cases occurred in the last fortnight of May, all of which had taken milk from one dairy. Four children in this dairyman's family had had diphtheria in March and April; and during their illness the milk was handled elsewhere, the milkers remained away from the house, and no epidemic resulted. But after the children recovered, a faulty disinfection was made by their mother, the milkers returned, and the milk was again bottled there. Ten days later the first case broke out among this dairy's customers, and 46 cases occurred in all before it was stopped. There was no reasonable doubt in this epidemic that it was due to careless and inefficient disinfection.

It is apropos here to tell how such milk-borne epidemics of typhoid, scarlet-fever, and diphtheria can be prevented. First, the dairy should be well situated; it should have good drainage, and the water supply should be examined and found reasonably pure and quite safe from possible sewage contamination. Second, the health of all persons engaged in milking and handling or delivering the milk should be watched, including a physical examination by a physician at least once a month as a routine measure. If any such employee contracts any infectious disease himself, or if any member of his family or household does so, he must cease at once from handling the milk and stay away until he is beyond reasonable doubt not a probable source of infection. This rule should apply to storekeepers who sell milk, as well as to cooks and waiters and



waitresses in hotels and restaurants. Third, flies must be carefully excluded from the milk; they are dangerous carriers of all sorts of disease germs. Fourth, sterilization of all bottles and cans returned from customers' houses before they are used again for holding milk. Fifth, sealing of milk bottles as soon as filled, to prevent any danger of infection during delivery. But since under present conditions these precautions cannot be carried out in most cities, pasteurization properly done after the milk has been bottled is the most practicable method of preventing milk-epidemics in our large cities. This should be combined with intelligent and careful supervision over the depots and stores where milk is sold.

So much for the dangers of the milk supply. Now how do Medical Milk Commissions aim to obtain milk which is pure and as free from all these dangers as human knowledge and conscientiousness can make it? I will give you a brief sketch of the founding of the first medical milk commission by Dr. Henry L. Coit of New Jersey in 1893. During the spring of 1887 he found himself confronted with the task of feeding his infant son. In order to obtain sound milk for him he was driven from one source of impoverished and contaminated milk to another, until in desperation he sought a small suburban dairyman who kept and delivered the milk of four cows. When he found three cases of diphtheria in this dairyman's house, and the man caring for the patients at night and the milk during the day, he lost patience, and at the annual meeting of the New Jersey State Medical Society offered a resolution for a committee to inquire into the relations, if any existed, between the mortality among infants in large centers of population and the milk supply. Dr. Chas. E. Lehlbach supported his motion, and the committee was appointed; but after agitating and investigating the question for two years, they failed to accomplish any improvement in the milk supply.

The State Dairy Commissioner wrote: "Such a radical reform as you desire in the production and handling of milk may not be accomplished in our generation." This would have discouraged most men, but it only aroused Dr. Coit's indignation, and he says: "I determined that if sound milk could not be obtained for the State of New Jersey, it could and must be secured at least for the section in which my family and my patients lived." He then devised the plan of the organization which I represent here to-night—"a professional body composed of physicians, which should first educate, then encourage, then finally endorse the work of dairymen who would bring to us milk designed for the most exacting needs of physicians." Prof. Albert R. Leeds endorsed Dr. Coit's plan, and the first meeting of the Essex County Medical Milk Commission was held in Newark on April 13, 1893. I cannot outline the plan of such commissions better than in Dr. Coit's own story of the plan of this first commission which he told at the first session of the American Association of Medical Milk Commissions at Atlantic City in 1907.

He said: "It was considered fundamental and essential, in order to obtain clean and pure milk, that we must engage the very best expert judgment on cleanliness and prophylaxis. We must also engage the very best expert judgment on dairy farming in all its relations. The proper collection and handling of milk must therefore be educational, occupying the best thought and engaging the best service of all concerned in its production. The plan includes three general requirements.

"1. That physicians give their practical support to an effort conducted by a Medical Milk Commission selected by a Medical Society from the section where they live, who shall endeavor to bring to the city a supply of milk produced under such regulations that purity shall be assured.

"2. That approved and trustworthy dairymen possessing honor, financial ability and dairy facilities shall be induced, by reason of promised medical support and the increased price of their milk, to conduct their dairies, collect and handle the product in conformity with a code of requirements made by the aforesaid Medical Commission and imposed by them in due legal form.

"3. That their duties shall be, first, to establish correct clinical standards of purity for cow's milk; second, to be responsible for a periodical and personal inspection of the dairy or dairies under their patronage; third, to provide for bi-monthly expert examinations of the dairy-stock by competent and approved veterinarians, and a medical supervision of the employees by competent physicians. The milk produced should also be subjected to periodic chemical analyses and to bacterial counts made under the direction of the Commission at such times as in its judgment is desirable. The legal requirements are stringent and binding; the code includes ample sureties for its fulfillment, necessary forfeiture clauses, a territorial limit for the sale of its product, and provision for the compensation of the experts employed by the Commission.

"It controls the character of the land used for pasturage and the cultivation of fodder; it determines the construction, drainage, ventilation and location of the buildings; provides for an abundant and pure water supply, and prevents the use of water from wells or springs holding surface drainage; it requires in the stable cleanliness and order, and forbids the keeping of any livestock except the cow within 300 yards of the dairy buildings. It regulates the assortment of the herd with reference to uniform results, as well as the health, the breed, and the temperament of the animals. It excludes any that are judged by a competent observer to be tuberculous or are found in a state of health prejudicial to the herd. It provides for proper housing and shelter of the animals, together with their grooming, their treatment, and the prompt removal of their waste from the stable. It regulates their feeding with reference to uniformity in the chemical composition of the product, and restrains the use of all questionable or exhausted food materials.

"It governs the collection and handling of the milk by insisting upon a proper regard for cleanli-

ness as viewed by the bacteriologist as it relates to the animal, her surroundings, the milker's hands, vessels, and the association of persons handling the milk with immediate or remote sources of infection. It controls by minute specified requirements every step in the cooling of the milk and its preparation for shipment, and adds to the product every detail of care known to promote its keeping qualities or favor its safe transportation. The motives of the Commission are disinterested, and its members forbid to themselves any pecuniary rewards. The experts are employed by the Commission and paid by the dairyman. The bi-monthly reports to the Commission of these officers are the basis of approval of the product, which in the form of a certificate acquire commercial value to the dairyman.

"In order to meet the clinical requirements of cow's milk, in the present state of our knowledge, three conditions must be fulfilled.

"1. An absence of large numbers of bacteria and the entire freedom of the milk from the pathogenic varieties.

"2. Unvarying resistance to early fermentative changes in the milk, so that it may be kept under ordinary conditions without extraordinary care.

"3. A constant nutritive value of known chemical composition and a uniform relation between the percentages of fats, proteids and carbohydrates."

Dr. Coit also coined the term "certified" milk, and got a legal decision restraining anyone from selling or advertising "certified" milk unless authorized to do so by the County Medical Society. If unscrupulous dairymen try to sell unauthorized milk as certified, we shall have to get such legal protection here also.

And here I wish to say that it is not the purpose of this or any other Milk Commission to supersede the City Board of Health in supervising the general milk supply. Only indirectly does the Milk Commission hope to affect the general supply by setting a high standard before the public and educating them to demand purer milk. But the Commission has no legal authority over any other dairyman than the one with which it makes its contract. The Board of Health should punish those dairies which sell adulterated or very dirty milk; the Milk Commission will reward the dairyman who produces really pure milk.

Three cities in California have Medical Milk Commissions: San Francisco, Oakland and Pasadena. One of these, at Oakland, was organized by the Oakland Home Club, but is endorsed by two medical societies, and its members are physicians. Members of the faculty of the State University cooperate, and bacteriological examinations are made in the laboratory of the State Board of Health. In their report for 1907 they were certifying the milk of one dairy of eighty cows, and plans for certifying another dairy were in progress. The report does not give their chemical or bacteriological standards.

For the following account of the San Francisco Medical Milk Commission I am indebted to the chairman, Dr. A. B. Spalding, whose kind letter in

answer to my inquiries I will quote (with his permission), as follows:

"The San Francisco County Commission was organized in 1905, but was put out of business by the earthquake. At that time we were certifying to the milk of two dairies. They had had our certificate only two months, but had already, I believe, begun to sell about 400 quarts of milk daily, when both dairies lost so heavily by the fire that they dropped certified milk in San Francisco. For the rest of the year nothing could be accomplished, and in 1907 a new Commission was appointed with Dr. Smith as chairman. This Commission failed to get results, and in January, 1908, the original Commission was reappointed with myself as chairman. Such a Commission is more than a mere committee, and the best results are obtained when such a Commission is more or less permanent. At present members of our Commission are appointed for five years, and one new member each year.

"Beginning next February, the five representatives of the County Society have been requested to invite two laymen to serve with them. I do not think this is a good plan, as the laity are not sufficiently interested to do the necessary work.

"Our Commission meets several times each month. Our experts are all from the University of California, and make the examinations frequently at very low rates. Dr. Jaffa, the chemist, for instance, makes weekly chemical examinations for two dollars each, reporting on Sp. Gr., total solids, fat, and freedom from preservatives. We have found frequent examinations necessary because of the wide variations in the fat-content, due to poor technique in the mixing and bottling of the milk. This has been our hardest problem, and even now, after months of work, the fat will vary in different bottles of the same milking from 3.2 to 4 per cent. The herd is composed of some Jerseys, but mostly Herefords and common American breeds.

"The herd is tested every three months for tuberculosis, and our veterinary also watches their general health. Formerly we tested the cows for tuberculosis only once in six months, but so many contracted the disease during that period that we found the three-month examination necessary. The veterinary visits the dairy once each month, however, and reports on the health of the herd.

"The bacteriological examinations are also made weekly, by Dr. Ward of Berkeley. But as a dairy gets in running order we believe less frequent examinations will be necessary. Originally with other experts, we paid chemist and bacteriologist ten dollars apiece for only one examination a month. *That is not often enough to guarantee the purity of the milk.*

"The requirements for a certificate are that the milk shall not contain above 20,000 germs per c.c. and 3.5% butter-fat. I favor a total solid requirement, but as yet we have fixed on none. *The bacterial count keeps regularly below 2000, and only once ran high due to changes being made in the barn.*

"One member of the commission visits each dairy

every month and reports on the conditions and the health of the employees. We insist that the milk be bottled immediately after milking and be sealed, cooled to 50° F. and kept at that temperature until sold. We allow about 30 hours for the delivery, but find the milk will keep indefinitely if kept cold.

"Expenses to Dairymen: A dairy applying for a certificate must first advance the fees for examinations by chemist, bacteriologist, and veterinarian, and pay the actual expenses of a visit to the dairy by all the members of the commission. Then a vote is taken on the dairy, and if satisfactory a certificate is issued for one month. If not passed, another examination is required when the faults have been corrected, and one member of the commission visits and reports on conditions as changed. This is also at the dairyman's expense. After receiving the certificate the dairyman must pay directly the experts' bills, amounting to about \$30 a month, and also a small tax to the commission on each quart of milk sold, to pay our actual expenses. At present this tax is  $\frac{1}{8}$ c a quart, which gives a sufficient income. We levy this tax by buying the certificates ourselves and selling them to the dairyman at a slight advance.

"Price of certified milk: We have nothing to do with the price; but personally I believe a good profit can be made on the sale of 300 to 400 quarts a day at 15c a quart.

"Success: The first dairy began selling certified milk in San Francisco last April; since then it has been impossible to supply the demand. This dairy has increased its output about 100 quarts each month and at present (Nov. 17) they are selling over 900 quarts a day at 15c a quart. A second dairy has started with 25 cows and sells about 100 quarts." (In a letter just received the last of December Dr. Spalding tells me that the commission is certifying the milk of three dairies, which supply five city milk dealers.)

Evidently the people of San Francisco appreciate purity in milk if not in politics!

In concluding this presentation of the importance of pure milk and the aims and methods of Medical Milk Commissions in obtaining pure, reliable milk for infants and invalids I must appeal to you, gentlemen, for support. The success of certified milk in Santa Barbara depends quite as much on you as on the dairymen and the commission. The people must be taught the dangers of ordinary milk; they must be taught to demand pure, certified milk for their babies and sick ones; and who but we physicians can or will teach them these things? The press may help the cause somewhat; but let us not rely at all on it, but teach our own patients and friends the value of certified milk and strongly recommend it in our own practice.

#### REPORT OF THE MILK COMMISSION OF THE SAN FRANCISCO COUNTY MEDICAL SOCIETY.

By the Chairman, ALFRED BAKER SPALDING, M. D.,  
San Francisco.

It is because the physicians have created a demand for pure milk that the dairyman has invested

his capital and devoted his time and energy to obtain the same and place it on the market. The milkman is decidedly practical and is willing to do any possible thing that produces a fair return for his money. He was promised the moral support of the profession if he would conduct his milk business along certain supposed odd and theoretical lines. This he has done. The public can now obtain in San Francisco an abundance of pure milk, and this pure milk will continue to be available just so long as the milkman finds it to his profit to produce it.

Unfortunately, the public left to themselves prefers milk that is cheap to milk that is pure, and so it becomes an important duty of the family physician to impress their patients with the dangers of cheap milk and to do what they alone can do—create a healthy public opinion in favor of pure milk.

There are many brands of so-called "pure milk," but only one has held the respect of the laity, and that is the milk certified to by an organization of unbiased and commercially uninterested physicians. In 1893, through the efforts of Dr. H. L. Coit and the Essex County, N. J., Medical Society, a dairyman was induced to produce milk of a high standard of purity, according to the directions of a Medical Milk Commission, for Newark, N. J. Other localities slowly took up this idea and in a similar way obtained what has generally come to be known as "certified milk," until at present there are in the United States thirty-four medical milk commissions with a national organization known as the American Association of Medical Milk Commissions, which hold annual meetings at the same time and place as the American Medical Association.

Briefly, "certified milk" means a milk from well-fed, healthy, non-tubercular cows, a milk so free from contamination and so carefully handled from the time of milking to the time of delivery, that the bacteria content shall not at any time exceed 10,000 germs per ccm., a milk containing all the nutritious milk solids without subtraction, addition or manipulation of any kind, a milk that is immediately cooled, bottled and sealed at the producing farm and delivered cold in such original container to the consumer as quickly as commercial facilities will permit.

Such a milk you can readily understand is of the utmost value in infant feeding and for the feeding of the sick. Imagine the effect both psychical and physical on a typhoid patient, for instance, of mixing with his drinking water an amount of tuberculous cow manure sufficient to produce a perceptible sediment on standing, of allowing this contaminated water to remain warm until the bacteria content ran (to place it at a low figure) two million germs per ccm. and then of flushing the patient's digestive tract with quantities of this foul and nauseating beverage! How many well people would drink it knowingly? And yet, so far as the Milk Commission can learn, there is not in San Francisco a hotel or hospital where an adult guest or patient can obtain a glass of milk with any less number of germs or which is any more free from tuberculous cow dung.



It is true that a sort of bacillus soup called "pasturized" milk can be obtained from which has been strained a part of the sediment (manure) together with all legal excess of butter fat, which has been heated for a few seconds to a degree that kills many of the harmless germs and stuns some of the more virulent ones.

In the fall of 1905 the President of the San Francisco County Medical Society appointed a commission to obtain for San Francisco a supply of pure milk to which the society could certify. The members of this commission, of which the writer was chairman, did not at first know a great deal about certified milk, and it took them some months to master the situation. However, they did succeed in placing on the market certified milk from two different sources for just one month previous to the fire of April, 1906. In January, 1907, an ill-advised President of the society thoughtlessly demoralized this important work by discharging the original commission and appointing a new one imbued with all the ignorance and inexperience that marked the inauguration of the first commission. Throughout 1907 nothing of importance was accomplished. During the past year satisfactory results have been attained and maintained, and it is the desire of the commission that a report of the aims, methods and results be made to the Society in order that, with a better understanding of conditions, the success of the venture be assured.

According to resolution of the Society, the President appointed last January five members to serve on the Milk Commission in such a way that in the future the complexion of the Commission can be changed only gradually and one new member appointed annually. These five are instructed to elect two lay members beginning with the coming year.

In April the milk from the Ideal Farms met the requirements of the Commission and was given a certificate. In November the milk from the Warren Model Dairy was certified, and in December the Timm Dairy received certificate. These farms are widely scattered, one being in Marin county, one at Menlo Park and the third at Dixon, near Sacramento. It requires an endless amount of work and watchfulness to see that the required standards are maintained.

The milk that is received in the sealed bottle with the certificate of the County Medical Society is produced on these model farms by healthy, well-fed, non-tuberculous cows, cows which are cared for carefully, which are well groomed before milking and milked in large, fresh, well-ventilated stables by intelligent milkers dressed in clean white clothes. The milkers wash the udders of the cows and milk with well washed dry hands. The milk is received in sterile pails having seven-inch openings, is promptly and efficiently cooled, mixed and poured into sterile bottles, after which it is sealed, stamped with the day for delivery, and transported cold to the distributor in San Francisco. The distributing agents, whose market milk is frequently subject to the disapproval of the local health authorities, cannot mix the certified milk with the ordinary supply and are under contract with the producer to deliver the milk according to the requirements of the Milk

Commission. This milk must contain from  $3\frac{1}{2}$  to 4% of butter fat, with an amount of solids not fat of at least  $8\frac{1}{2}\%$  and must contain not more than 10,000 germs per ccm.

The expert work is done by the members of the faculty of the College of Agriculture in Berkeley. A veterinarian from the university visits the different farms each month and renders a report to the Commission in regard to the health of the herds and the sanitary conditions of the dairy. Once each week from the laboratories at Berkeley, Prof. Jaffa, the chemist, and Prof. Ward, the state bacteriologist, send reports in regard to the chemical and bacteriological condition of the milk, picked at random from the delivery wagons in San Francisco. In addition to these inspections some member of the Commission makes a personal visit to each of the farms some time during the month to ascertain the health of the employees and the way in which the rules of the Commission are being carried out. By invitation, Dr. George S. Baker, chief of the Pacific Coast division, Bureau of Animal Industry, Washington, D. C., has acted as counselor to the Commission, and besides attending meetings of the Commission has visited the farms to give practical aid to the dairymen. During the year the Commission has held 36 meetings with an average attendance for the five members of over four at each meeting. Sixteen preliminary visits have been made by members to farms preliminary to granting certificate, and in addition eleven monthly visits have been made to certified farms, making a total of twenty-seven visits. The secretary of the Commission attended the annual meeting of the Association of American Medical Milk Commissions in Chicago last June and rendered a report of work done in San Francisco. The dairymen have exhibited a willingness to meet the requirements of the Commission and to invest the capital needed to improve the quality and purity of the milk.

The germ count has, with the exception of one month, remained in the neighborhood of 2,500 germs per ccm., with a minimum count of 320 and a maximum count of 7,600. When the count ran high in July the cause was detected by our experts and promptly corrected by the dairyman. It has been hard to maintain a constant per cent of butter fat and is a problem the Commission still has to contend with. The total solids have averaged from  $12\frac{1}{2}$  to  $13\%$ .

The dairymen pay for the work of the experts, and, since last November, have paid for the running expenses of the Commission.

The sale of certified milk has increased at a rapid rate. Beginning in April with a few dozen quarts the sale for December amounted to 1,165 quarts per day. The dairyman depends on the members of the Society to recommend his product. He receives a certificate only from month to month, and so long as he meets the requirements his name as well as the names of all his distributors are sent to each member of the county society. Twice during the year the secretary of the county society neglected to place the names of the dairymen on the regular program, much to the chagrin of the Commission, as this forms part of the contract with the dairyman.

The Commission commends to the Society the certified milk now on the market and urges the members to encourage its use in families and hotels for general consumption and to insist on hospitals and private patients being supplied with a sufficient amount of certified milk for the nourishment of all infants and invalids needing a milk diet.

#### PERSISTENT OMPHALOMESENTERIC DUCT WITH ACCESSORY PANCREAS.\*

By W. W. ROBLEE, M. D., *Riverside.*

The patient, T. P., aged 2½ years, came to me January 6, 1908, the mother stating that the baby's umbilicus was sore and constantly moistened by a watery discharge. The confinement was a normal one, the cord came off within a week, and the navel was apparently normal until at the age of 20 months, the mother noticed a drop of blood coming from it. There appeared to be some very small granulations present at this time, but no tumor growth, and from that time on the navel remained red and moist. It was cauterized several times with nitrate of silver, and in December, 1907, shortly before they came to California, it was curetted by their physician, Dr. Watkins, in Washington. After they came here, on two different occasions I touched what appeared to be two small red granulations, with chromic acid, but the discharge continued. In March, 1908, the child was taken ill with an acute infection, probably influenza. He was seriously sick, and then before he fully recovered, an attack of pertussis developed. During this time, about six weeks, the mother paid but little attention to the navel, and upon her return from a stay at the seashore, she brought the child to my office.

Upon inspection, I found that since seeing the patient about a month previous, a small tumor mass had developed outside of, but connected by a pedicle to the umbilicus. This was ½-inch in diameter, round, red in color and very firm in consistency. After excluding hernia, in diagnosis, I recommended its excision. This I did under chloroform anaesthesia and followed it by a thorough cauterization of its base by the electro cautery.

At this date, eight months after the performance of the operation, it has healed completely and no more moisture occurs at the umbilicus. Whether the result will be permanent or not, I am unable to say, but I judge from the histological findings, that there will be no more trouble.

Histology. A vertical section through the tumor mass shows the following condition: The tumor is solid, the outer covering is composed of a layer of intestinal glands. Below this, is a layer of connective tissue, then comes the central portion of the tumor, which is composed of typical pancreatic tissue, lobes, lobules, acini and characteristic islands of Langerhans. No excretory duct can be found; but one was undoubtedly present, and through it the moisture came which caused so much annoyance. We then have forming the base of the tumor, another layer of connective tissue and some unstriped muscle fibers. It is evident from the section

that the tumor was excised well below the pancreatic tissue, and I look for no further trouble from that source.

The explanation of the histological findings has been difficult to arrive at, and I have been unable to find any case reports showing a like condition. The layer of intestinal mucous membrane evidently is due to a persistence of the omphalomesenteric duct; the pancreatic tissue is a so-called accessory pancreas, which evidently became displaced in early embryological life. I find no records of an accessory pancreas having increased in size so rapidly as did this one. In fact, the largest gland I find a record of, is reported by Thorel,<sup>1</sup> said to be the size of a two-mark piece. The usual size is from 1 to 2 cm. in diameter.

Both the persistence of an unclosed omphalomesenteric duct and an accessory pancreas are interesting and unusual pathological conditions. When both occur in the same individual, the case is of sufficient rarity and interest to demand a very careful study of the embryological conditions that may cause the same.

Portions of the omphalomesenteric duct persist in one person out of every fifty, according to the figures given by the Anatomical Society of Great Britain and Ireland.

In the embryo at the 4th week, the intestine communicates with the yolk sac by means of a tube or canal, the ovo vitelline or omphalomesenteric duct. Along with this canal, are an artery and vein. By the end of the sixth week, the abdominal plates close, the umbilical vesicle, the duct and blood vessels atrophy, and in a short time nothing remains but a few fibres which unite the intestine to the umbilicus. The atrophy of this duct may not be complete and we may have a partial or complete persistence of the canal. If it is complete, there may be a persistent fecal fistula at the umbilicus. If it is incomplete, we have a blind pouch remaining, which is similar to the appendix vermiformis in character; but usually thicker and larger, which has been called Meckel's diverticulum, after the observer who was the first<sup>2</sup> to explain, "In what manner this fault of primitive formation arises."

The diverticulum is in probably 85% of cases attached to the ileum; but it may be attached to any portion of the small intestine. It is one of the important causes of intestinal obstruction in children, the bowels becoming kinked or caught about this fibrous band, and thus becoming strangulated. It is also subject to inflammation with all the acute symptoms of an appendicitis, and if it is not excised bands of adhesions form which still further add to the probability of an intestinal obstruction. In fact, bands and cords in the abdomen are second in importance only to intussusception in the causation of intestinal obstruction; these bands frequently have their origin from omphalomesenteric remains.

Now to turn for a moment to a consideration of accessory pancreas, we find a similar condition of affairs. It is a comparatively rare anomaly; a careful search of the literature gives a total of only about 70 cases situated away from the immediate neighborhood of the main organ, reported to date.

\* Read before the Southern California Medical Association, Santa Ana.

These small islands of misplaced pancreatic tissue have been found in the wall of the stomach, the wall of the small intestine, especially the upper portion, in the stomach and intestinal diverticuli, in the latter of which it has invariably been found attached to the tip, the spleen, mesenteric fat, omentum and umbilicus.

The pancreas, according to Zenker,<sup>3</sup> modified by Glenski,<sup>4</sup> is developed from three primitive diverticuli. Normally, these fuse; but if for any reason any one of these processes does not fuse with the others, we have a duplicate or accessory pancreas.

The gastrointestinal canal develops in close proximity to the pancreas, and if a nodule of pancreatic tissue is detached from the rest of the gland, it can be carried upward or downward by the longitudinal growth of the intestine. The accessory pancreas then can, and probably does, bear a distinct relationship to the development of intestinal diverticuli.

Bize<sup>5</sup> cites 7 cases situated at the tip of diverticuli and claims that these diverticuli all developed because of the traction exerted upon the developing intestinal wall by the accessory pancreas. In the case I report, the pancreatic cells must have been pinched off and held with the omphalomesenteric duct by the coalescing abdominal plates.

Wright<sup>6</sup> reports a case of accessory pancreas just within the umbilicus, with a fistula leading from it to the umbilicus, which gave much the same symptomatology as did my case; but upon section no omphalomesenteric covering was found, the fistulous tract appearing to correspond with an invagination of the epidermis. The case I report appears to be unique, none other giving the same combination of tissue growth.

The one additional point of interest is the apparently rapid growth of the tumor for a few weeks prior to its excision. The age of the child speaks against carcinoma.

Warthin,<sup>7</sup> Bize<sup>5</sup> and Ellis<sup>8</sup> all report cases of accessory pancreas in which malignancy appears to be established, and all lay stress upon the possibility of such an occurrence. In this case the growth can probably be otherwise explained. The pancreatic nodule probably was situated under the umbilicus, and it was forced out by the paroxysms of coughing indulged in by the child during the attack of whooping-cough from which it suffered. The microscopic section shows that my incision was well beneath the base of the tumor, and I look for no more trouble with the case.

The layer of duct cells forming the outer covering of the tumor evidently does not come from a patulous tube or the discharge would not have ceased following the comparatively superficial surgical measures used in this case. The only operative procedure offering permanent cure in the cases having a patulous tube is the performance of an abdominal section with complete excision of the duct at its point of origin from the intestine.

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## SPINAL ANESTHESIA.

### A CRITICAL REVIEW.

No method of anesthesia has been the subject of more contradictory reports than the spinal method. To many Tuffier's dramatic demonstrations before the International Congress of 1900 heralded the dawn of the long desired successor of general anesthesia. Ere long, however, enthusiasm gave way to reserve, and then, from numerous sources, came words of caution, and even expressions of condemnation. The uncertainty of the method called forth numerous explanations: faulty technic, sepsis, improper preparation of the drug, hypotonic or hyperthermic solutions, variability of the meningeal pressure, etc., etc. Others, particularly the physiologists, blamed the drug or association of drugs as "an insult to the nervous system," citing the innocuousness of spinal puncture in medical hands and the absence of ill effects from injections of isotonic salt solution.

To-day, with perfected technic, absolute asepsis and the possession of numerous substitutes for cocaine, the diverse, long operative lists still fail to clear up this condition of indecision as to the usefulness of spinal anesthesia. Thus, surgeons with an experience of several hundreds of spinal injections have abandoned the method entirely, while new advocates are periodically publishing laudatory reports.

The great majority of French surgeons have anesthesia is contraindicated. Across the Rhine, no final verdict has been reached, but the recent contributions to the study of local and general anesthesia from the clinic of Germany's most original surgical mind, I refer to Bier, are most significant. England, with its highly trained specialists in general anesthesia, was tardy in taking up the study of spinal anesthesia, and only an exceedingly small proportion of English surgeons find any advantage in spinal anesthesia over general anesthesia as at present employed. In the United States the pendulum has swung constantly toward conservatism since 1904, and to-day the great majority of American surgeons, not excepting the genitourinary specialists, are restricting more and more the use of spinal anesthesia to the rather infrequent operative conditions of the lower limbs and pelvis in which shock is especially apprehended or where a coexisting disease makes general anesthesia dangerous. Indeed, in surgical societies, an apology is expected to precede the report of any considerable number of cases of spinal anesthesia. Unfortunately, many spinal injections will continue to be made in this country by surgeons who are guided by their own convenience or insane desire for statistical eminence rather than by their patients' interests.

Particularly interesting and indicative of the present status of spinal anesthesia are the reports and discussions of the recent International Congress (Brussels, October, 1908). Rehn, of Frankfurt, summed up the Committee's view as follows: (1)



high anesthetics are dangerous and, in our present state of knowledge, barely justifiable; (2) attempts at localizing the action of analgesic substances in the subarachnoid space promise little of value; (3) less dangerous in old people and very objectionable in the young, the spinal method is distinctly contraindicated in suppurations, pronounced arterio sclerosis, central nervous disorders and extensive tuberculous lesions; (4) it should only be used as a substitute for general anesthesia and the latter should invariably be preferred when possible; (5) the spinal method should never be resorted to in conditions where local or primary ether anesthesia is satisfactory; (6) Bier's new original method of anesthesia will still further restrict the field of spinal anesthesia; (7) the patient's consent should always be obtained before resorting to the spinal method.

Sonnenberg's list of 1117 injections shows three deaths from meningitis, three cases of temporary paralysis of the seventh nerve and one of the facial and hypoglossal. Kummel, using stovain, tropococain and novocain, had no deaths in 1400 cases, but several cases of marked collapse all successfully treated with intravenous injections of large amounts of salt solution (1500-2000 cc.) Bruning had three deaths in 450 cases (1 paraplegia with ascending pylo-nephritis, 1 respiratory failure on the operating table and 1 cerebral hemorrhage). In several cases Bruning observed severe pain in the lower limbs persisting 12 and 18 months after the injection. Jonnesco and Jairo report no fatalities in 617 stovain injections. In several cases Jonnesco resorted successfully to the method of high anesthesia originally advocated by Tait and Cagliari (the sixth cervical space). According to Jonnesco, anesthesia of the various segments of the body may be produced by varying the site of the injection (cervical, high or low dorsal, lumbar). Fourteen successful "segmental anesthetics" were reported by Jonnesco, who adds 1 mg. of strychnin to the stovain solution in view of eliminating the paralyzing effect of the latter drug on the respiration and the heart.

Alessandri (Rome) had no deaths with tropococain, stovain and novocain in 918 cases. Legueu (350 cases) referred to his previously published fatalities with spinal anesthesia and to the occurrence of late complications (persisting paraplegias, incontinence of urine, violent meningeal reactions) which caused him to classify spinal anesthesia among "the exceptional methods."

The combined statistics presented at the International Congress strongly accentuate the uncertain action of spinal injections; failures ranged from 8 to 16 per cent. The percentage of failures was lower with tropococain than with stovain or novocain; whilst, on the other hand, stovain caused less shock and a longer anesthesia. The addition of adrenalin is probably accountable for some early paralyses. No one has succeeded in eliminating or even markedly reducing the frequency of the three most disagreeable features of spinal anesthesia: vomiting, headache and urinary disorders.

#### *Local Anesthesia in the Reduction of Fractures*

*and Dislocations.* The principal obstacle in the reduction of fractures is muscular contraction due to pain. The disadvantages and dangers of general anesthesia in such conditions, especially in alcoholic patients, are too well known to require comment. Hence the total rejection of general anesthesia by some surgeons who thus jeopardize the accuracy and completeness of their work; while other surgeons add an uncertain element of prognosis by resorting to spinal anesthesia.

In 1885 Conway, of New York, reported three cases of Colles' fracture and one elbow dislocation, all reduced without pain under local anesthesia. Like Corning's original experiments in spinal anesthesia, Conway's work was overlooked until rediscovered abroad, for in 1908 Lerda (of Turin) reported thirty cases of fracture reduced under local anesthesia and shortly afterwards Quenu published a list of fourteen cases.

The technic is as follows: after the usual aseptic preparation, a 1% solution of cocaine is injected directly over the site of the fracture, sufficiently deep to reach the fractured surfaces of the bone; the peri-articular tissues are also injected. In fractures involving two bones both sites of fracture should be injected separately. The application of a rubber band upon the point of injection will prove valuable in prolonging the anesthesia. The average dose is 30 drops of a 1% solution of cocaine. No harm has resulted from the use of as much as 50 drops. In dislocations the injections should be made around the joints, at the site of the ligaments and in the soft peri-articular parts.

Under the name of "*Indirect Local Anesthesia*," Bier has made a valuable contribution to operative surgery of the limbs.

The technic of this procedure is as follows: The elevated limb having been rendered bloodless by means of an Esmarch bandage, a tourniquet is tightly applied above and below the proposed field of operation. Under infiltration anesthesia the principal vein or one of its tributaries is exposed in the distal portion of the field of operation and its lumen opened by a small longitudinal incision. In operations upon or in the vicinity of the knee joint, for instance, the internal saphenous vein may be made use of. A canula is then introduced into the vein and made secure, and from 40 to 80 cc. of a one-half solution of novocain is introduced, the injection of the solution being made under considerable pressure.\* By thus making use of the veins as a medium an anesthetic solution is carried to all the tissues, including periosteum and bone, which lie between the proximal and distal tourniquets. In from 3 to 5 minutes complete anesthesia is obtained which continues for a length of time sufficient to perform any operation. At the completion of the operation and prior to the removal of the tourniquet, the novocain solution may be washed out with salt solution.

This method of anesthesia has the advantage of

\* The average dose of novocain used by Bier was 60 to 80 cc. of a  $\frac{1}{2}$  per cent solution for operations on the knee, 40 to 60 for elbow interventions. An arthrodesis of the knee in a 3-year-old patient required 25 cc. of a  $\frac{1}{4}$  per cent solution.

being applicable to all operations on the limbs where a segment may thus be rendered anesthetic. Properly applied it is apparently without danger, although one should bear in mind that the quantity of drug used amounts to a toxic dose if allowed to enter the general circulation.

The principle which Bier has made use of is interesting from a physiological standpoint, and its practical value has already been demonstrated by several German surgeons.

About one year ago, Klapp, then assistant to Bier, sought to diminish the quantity of anesthetic (especially in general anesthesia) by reducing the amount of circulating blood. His experiments were upon the following lines: Two rabbits of approximately the same weight were selected; upon the first an Esmarch bandage was placed as high as possible on each thigh; both rabbits were then placed in a glass jar into which a mixture of chloroform and air is injected. Under these conditions the ligated rabbit would invariably go to sleep much quicker than the control rabbit, and, upon removing the bandages, at the completion of the experiment, the ligated rabbit would recover earlier than the control rabbit. If the ligated rabbit be placed in the glass jar several minutes after the control rabbit and both rabbits fall asleep at the same time, they will awaken almost simultaneously after being taken from the jars and removing the bandages.

Thus, by shutting off from the general circulation the blood in the limbs, narcosis may be obtained with smaller quantities of anesthetic than are considered necessary under normal conditions.

Zur Veith, working in Bier's clinic, applied the results of the foregoing experiments in 100 operations. He first studied on himself the effects of prolonged application of Esmarch bandage to the upper and lower extremities, and found it could not be tolerated for more than 15 to 20 minutes on account of the pain which soon followed its application and gradually increased in intensity. No change in the pulse rate or tension was noted. The well known reports of brachial paralysis following prolonged constriction of the arm led zur Veith to apply the Esmarch bandages only to the lower limbs in his operative cases. Under these conditions the quantity of anesthetic necessary to produce and maintain narcosis was notably reduced. Another fact of considerable importance was the patients' early, almost immediate, recovery from the anesthetic upon removing the bandages. Apparently the blood of the lower limbs, saturated with CO<sub>2</sub> and free from anesthetic, rushing suddenly into the general circulation, acts as an excitant to the central nerve centers.

Anschutz, with 50 additional cases, confirms zur Veith's findings and considers the procedure especially valuable in operations upon the head and neck. Fear of late hemorrhage has caused him to advise against its use in intestinal operations. On the other hand zur Veith has never noted a single instance of late hemorrhage.

D. T.

#### A CASE OF SCROTAL GALACTOCELE.

By HARRY I. WIEL, M. D., San Francisco.

This case offers an interest, almost if not quite unique and is well worth the telling. At the out-

set we must define *galactocoele*. Searching the literature under that heading, cases will be found in number sufficient to remove the condition from the rarities, but a glance at the articles themselves will discover that they refer to milk-containing cysts of the mammary gland.

The matter brought out in this report is a different affair and yet comes under the heading. It is almost inconceivable to have a milk-containing cyst of any organ other than the mammary gland, but this case proves it possible. Therefore, conforming to the literal sense of the term, we mean by *galactocoele* any cyst containing milk, and by milk, for this purpose is understood nothing more than an emulsion of fat.

J. T. Y., carpenter, married, age 38, native of Australia, consulted me, June 10, 1908, for a swelling of the right side of the scrotum. Only point of interest in family history was death of mother at 64 of uterine cancer. Previous history of no note except that until nine months of time of consultation he had lived in western Australia. (In the light of later findings this was considered of some importance.)

**Present illness** was first noticed ten weeks previously when right side of scrotum was seen to be enlarging and gradually increased to its present size. It never gave any discomfort other than a slight sense of heaviness on walking. No sexual or urinary disturbances, no loss of weight, no fever, no general malaise, no night sweats; in fact, general health entirely unimpaired.

Physical examination disclosed a normal well-nourished individual as regards heart, lungs, head and abdomen. On lower extremities were noticed numerous varices, probably varicose lymphatics. Right side of scrotum enlarged to about the size of a large orange, tense, heavy and evidently containing fluid. The testicle was easily made out lying in the usual position behind the sac of fluid and had a small nodule on its anterior inferior surface. The inguinal canal was clear, the epididymis normal as was also the left side of the scrotum. The condition was unhesitatingly diagnosed as hydrocele and tapping advised which was done the next day in the office. The result was to say the least startling, for on withdrawing the piston of the syringe, the fluid which followed into the barrel was to all appearances milk, 150 cc. in amount. Examination of the fluid showed it to be a true emulsion of fat and corresponding to milk in many of its reactions.

The patient was told to return the next day and meanwhile it was a puzzle as to what the bottom of the condition might be. In twenty-four hours the sac had filled again completely, and as it was evident that the condition was an unusual one, a surgical consultation was advised. Dr. Camillus Bush saw the patient with me on the following day and together we tapped the sac again, 130 cc. of "milk" being withdrawn. The blood was examined and found to be negative from all points of view. In the light that there was present a small nodular growth on the testicle it appeared to us that we might be dealing with a tumor of the testicle and even went so far as to suggest to ourselves a teratoma with some aberrant mammary tissue secreting milk. The idea of filariasis had of course previously entered our mind both from the nature of the fluid found and from the man's former place of residence. Elephantiasis, however, we argued was usually bilateral; but nevertheless we had not yet examined the blood at night and could not definitely exclude it. At any rate unilateral castration was urged and agreed upon.

On June 14th at 10 p. m., the patient was roused from his sleep and a specimen of blood taken, many smears and fresh samples being examined. Nothing in the nature of a parasite was found.

**Operation** June 15th, by Dr. Camillus Bush. Under

ether anesthesia an incision was made high up on the left side of the scrotum near the external ring. The spermatic cord was found much thickened due to varicose lymphatics, from the cut ends of which by the use of considerable force some of the milky fluid could be expressed from the sac below. The vas was seen to be normal. The cremaster, vas and vessels were tied and cut and the testicle lifted out of the scrotum with the galactocoele intact. The scrotum was then closed and the patient returned to his bed.

Specimen was sent to Dr. Ophuls, pathologist to the Lane Hospital, for examination. He opened the sac and found 150 cc. of the "milk." To the naked eye the tunica albuginea and vaginalis were normal, though microscopically there existed a mild degree of chronic periorchitis. The epididymis was a little large and soft and on gross section rather pultaceous. The nodule heretofore mentioned was a small spermatocele. Smears made from section of the varicose lymphatics and from fresh blood from the specimen were negative for parasites.

**Post-operative history.** Patient's general recovery was uneventful though an interesting feature in his local trouble developed. On the 4th day after the operation there was noticed a soft boggy, probably cystic intra-abdominal mass just above the right Poupert's ligament, immovable and painless. Its appearance seemed to be sudden and its size, during the patient's stay in the hospital did not alter. On the 8th day the patient was allowed to go to his home, and ordered to visit me at the office frequently for observation.

This he did. It was difficult for us to disassociate the matter from a parasitic cause, and with that notion in mind atoxyl, in the light of its use in trypanosomiasis, suggested itself to us as a therapeutic agent. We used the drug by means of intravenous injections, beginning with a dose of 1-3 gr. This was done at two-day intervals, gradually increasing the dose up to 1 1/3 grs. until July 10th, twenty-four days after the operation. At that time the patient was in good general condition and the intra-abdominal tumor, if changed at all, had perhaps grown slightly larger.

The patient was then allowed rest from treatment for a week as we felt delicate about pushing atoxyl too far. When seen the week following he reported having been at work at his trade and having felt no ill effects. Abdominal examination showed that the abdominal tumor had disappeared. He was seen again a week later and the mass had not returned. He then left town and we have not seen him since, though he has been heard from as working and in normal condition.

In recent years there have appeared at intervals in the literature reports and discussions on cases of chylous ascites, and their nature is not yet quite clear. Here we have a chylous hydrocele and probably the same factors are at the bottom of both. On the other hand the rapidity with which it filled after tapping, and the development of an intra-abdominal cystic mass after communication with the scrotum had been closed, suggests to us that there must have been an open funicular process of peritoneum and that we were dealing with an "hydrocele communicans." This may have been in connection with a chylous ascites, but more probably with a mesenteric cyst, and whether we could even trace the source of the fluid to the receptaculum chyli is food for thought. Of this we were certain, that we were not dealing with lymphatic fluid nor with the sort of fluid obtained in a spermatocele, but with a

creamy white opaque emulsion of fat, in fact with a milk.

We also came to the conclusion finally that the affair was not parasitic, as a continued and careful search by many persons would in all probability have revealed at some time any organisms that might have been the cause. Especially careful were we to seek many specimens of blood while the patient was asleep.

Literature on this matter is so sparse as to be almost negligible. Konig in passing mentions that Vidal had such a case in an African soldier and took the milk to be some anomaly in albuminous metabolism, a diffuse statement which really throws no light at all on the subject. The first named also quotes V. Pitha as having such a case, but without comment. Here and there in a text-book on genito-urinary surgery is an isolated statement to the effect that such an anomaly has been known to occur, but probably its mention comes from the knowledge of the case of Vidal.

In a matter so rare as this it may not be of much moment just what the etiological factors are, and as fortunately (sic) in this case there is no immediate outlook for an autopsy to throw what light it can, we shall probably not find out anything further. Nevertheless the extraordinary is always teeming with interest, and as remarkable tales of unusual things are often received with pleasure, we take that as justification for putting this one in print.

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#### WARREN TRIENNIAL PRIZE.

Massachusetts General Hospital.

The Warren Triennial Prize was founded by the late Dr. J. Mason Warren in memory of his father, and his will provides that the accumulated interest of the fund shall be awarded every three years to the best dissertation, considered worthy of a premium, on some subject in Physiology, Surgery, or Pathological Anatomy; the arbitrators being the physicians and surgeons of the Massachusetts General Hospital.

The subject for competition for the year 1910 is on Some Special Subject in Physiology, Surgery, or Pathology.

Dissertation must be in either the English, French or German languages, and must be typewritten and suitably bound, so as to be easily handled. Work that has been published previously will not be considered in competition. The name of the writer must be enclosed in a sealed envelope, on which must be written a motto corresponding with one or the accompanying dissertation.

Any clue given by the dissertation, or any action on the part of the writer which reveals his name before the award of the prize, will disqualify him from receiving the same.

The amount of the prize for the year 1910 will be \$500.

In case no dissertation is considered sufficiently meritorious, no award will be made. Dissertations will be received until April 14, 1910.

A high value will be placed on original work.

FREDERIC A. WASHBURN,  
Resident Physician.

Boston, February, 1909.



## UNIVERSAL ESPERANTO ASSOCIATION FOR PHYSICIANS.

To the Editor:

Sir—At the last Esperanto Congress at Dresden, in August, 1908, an association of physicians interested in Esperanto, whether proficient or not, was formed, with the following officers: President, Prof. Dor, of Lyons, France; vice-presidents, Drs. Mybs, of Altona, Germany, and Whitaker, of Liverpool; Secretary, Dr. W. Robin, Warsaw, Russia; Treasurer, Dr. Roblot, of Charenton, Seine, France. Consuls were appointed for France, Russia, Austria, Germany, Poland, England, Sweden, Spain, Canada and the United States. As the association grows, the number of consuls will be multiplied according to the requirements of large cities and medical centers in each country. The chief aim of the association is to bring into relationship physicians of different countries, affording them, in a language that all can understand, an organ for the discussion of matters of professional interest—questions mainly that affect the wellbeing of the profession and its members, though the scientific aspect may receive attention as well. It will also prove in some measure an aid to traveling physicians by enabling them to get into touch as a matter of right with someone in any country in the world, of whom they can seek information on local professional matters. Every member will receive gratis the "Vocho de Kuracistoj" (Voice of the Physicians), the monthly organ of the association, which is now in its second year, and which any physician of moderate training can learn to read with little casual study in the cars, in a few weeks. For myself, I learned the language sufficiently well in three weeks to write an article in it several columns in length, on the "Professional Secret in the United States." It was published in the November issue of the "Vocho de Kuracistoj." I did not take Esperanto up from fancy, for I have always been prejudiced against it. But my experience with it when I was called on to deal with it in the way of duty, has led me to regret that I allowed so long a time to elapse after first hearing it advocated, before I began seriously to study it. It has brought me into personal friendly relations with many physicians of many lands.

Should this note prompt any physician to take an interest in it, I shall be glad to answer as far as I can any specific questions to those who will include postage, and as consul for U. S. A. I shall be particularly glad to receive and transmit the application for membership of any physician in the Tutmonda Esperanto Kuracista Asocio (T. E. K. A.). The subscription is \$1.00 per annum. Checks should add the exchange if any is necessary—about 15 cents.

KENNETH W. MILLICAN.

1143 Sheridan Rd., Chicago.

## COUNTY SOCIETIES

### BUTTE COUNTY.

The regular meeting of the Butte County Medical Society was held Tuesday evening, December 8, at the offices of Dr. O. Stansbury at Chico, with the following members and visitors present:

Dr. L. Q. Thompson of Gridley, Drs. Kusel and Gates of Oroville, Drs. C. L. Browning, N. T. Enloe, L. C. Perdue, O. Stansbury and M. Stansbury, D. H. Moulton, P. E. Bullington, W. B. Johnson, C. Oliver, C. Smith, J. W. Harvey, N. Allen and Ella F. Gatchell and the Board of City Trustees.

Dr. N. K. Foster, Secretary of the State Board of Health, was present as the guest of the Society. President Dr. L. Q. Thompson presided.

A paper on diphtheria was read by Dr. C. L. Browning and discussed by several physicians. Dr. Foster advised the City Trustees that free antitoxin fur-

nished to indigent families was a good investment, as it would check the spread of the disease. He advised the enforcement of a longer term of quarantine, that it should be three weeks from the time of improvement or two negative cultures taken 24 hours apart if laboratory tests are made, which he advised. Did not believe in closing schools but in having a supervision of the scholars, especially any suspicious case should be quarantined till a culture could be examined.

Drs. Bullington and M. Stansbury were elected to membership. A great deal of business was transacted. The following officers were elected for 1909: President, N. T. Enloe; Vice-President, L. L. Thompson; Secretary-Treasurer, Ella F. Gatchell; Board of Censors, L. Q. Thompson and P. F. Bullington; delegate to State Medical Society, D. M. Moulton; alternate, M. Stansbury.

A vote of thanks was tendered Dr. Foster for his presence and valuable advice. Meeting adjourned.

ELLA F. GACHELL, Sec'y.

LEE—Friday

### HUMBOLDT COUNTY.

The annual meeting of the Humboldt County Medical Society was held at Sequoia Tavern January 19th, 1909, at which the following officers were elected for the ensuing year:

President—Curtis O. Falk of Eureka.

Vice-President—Charles W. Mills of Arcata.

Secretary—John N. Chain of Eureka.

Treasurer—B. M. Marshall of Eureka.

Delegate to the State Society, elected 1908—Dr. F. R. Horel of Arcata. 1909—Charles C. Falk of Eureka.

Alternates—Drs. O. W. Sinclair and B. M. Marshall of Eureka.

The President appointed the following committees—Chairmen first:

Program and Scientific Work—Drs. J. H. Mallery, G. N. Drysdale and Charles C. Falk.

Public Health and Legislation—Drs. Rae Felt, H. S. Delamere and C. W. Mills.

Social Entertainment and Refreshment—Drs. John Chain, O. W. Sinclair and B. M. Marshall.

Special Legislative Committee—Reappointed—Drs. J. H. Mallery, Charles C. Falk and E. J. Hill.

Dr. Drysdale read a paper on "Some Surgical Cases, With Especial Reference to the Effect of Fear." Whenever Drysdale gets this paper in form for printing, I will send it to you, as it was really interesting. Dr. Chain made a short talk on "Some Impure Food Products and the Possible Remedy," which resulted in a resolution instructing our representatives to support pure food legislation requiring the manufacturers to brand their products with the exact contents, with a special reference to preservatives. Dr. Curtis O. Falk presented a case of nutmeg poisoning, which is of interest and will be in form to send to you soon.

The Secretary was also instructed to write Senator Martinelli supporting his State Dairy Bureau bill. This is particularly important for Humboldt, and anything you can do along these lines will be appreciated.

Withal, the meeting was an interesting one. It, of course, followed the annual banquet.

Sincerely yours,

J. H. MALLERY, Sec'y.

### LOS ANGELES COUNTY.

At a regular meeting of the Los Angeles County Medical Association held on March 5th, 1909, Dr. George H. Kress introduced the following resolutions, which were adopted unanimously by the Association:

Whereas, Ophthalmia Neonatorum, a preventable

disease, is the cause of about one-tenth of all blindness;

And whereas, this unnecessary blindness means untold misery to several thousand persons of our country, as well as an annual expenditure of almost one million dollars in the care of these unfortunate persons;

Now, therefore be it resolved, That it is the sense of the Los Angeles County Medical Association, that all members of the Association be urged to spread the knowledge of the great value of the Crede method of silver nitrate instillation as a preventive of ophthalmia neonatorum, and that all practitioners and midwives should use this method in obstetric practice,

And be it further resolved, That this Association request the California State Board of Health to make the prevention of ophthalmia neonatorum a matter of special consideration and action, and that a copy of this resolution be sent to that board, and copies be sent for publication to the Bulletin of this Association and to the Journal of the Medical Society of the State of California.

#### MENDOCINO COUNTY.

Pursuant to a called meeting by Dr. E. W. King, president of the Mendocino County Medical Society, for the purpose of electing officers and electing a delegate and alternate to the State Society, a meeting was held in Ukiah at the office of Dr. Lathrop. Present were Drs. King, Lathrop, Bond, Rea and Allen. The minutes of the previous meeting being read and accepted, and there being no previous business, the members immediately took up the question of election of officers.

It was moved and carried that Dr. Bond be elected president; moved and carried that Dr. Lathrop be elected vice-president; moved and carried that Dr. Allen be elected secretary and treasurer; moved and carried that Dr. King be elected delegate to the State Society; moved and carried that Dr. Beckman be elected alternate to the State Society; moved and carried that Drs. Bond, Rea and Lathrop be elected board of censors for the ensuing year.

It was resolved that the word regular be removed from the constitution and by-laws and that Dr. King enter into correspondence with the State Society regarding the meaning of the word regular as mentioned in the constitution and by-laws of the Medical Society of the State of California, found in Article 1, Section 3.

Moved and carried that application blanks be printed, and an explanation regarding the word regular in the constitution and by-laws be printed thereon.

Open discussion was had as to the best ways of advancing the interests of the society in this county. There being no further business, the meeting was adjourned until the regular meeting, the third Friday in April.

F. E. ALLEN, Secretary-Treasurer.

#### SONOMA COUNTY.

The regular monthly meeting was held at Cloverdale, February 22nd, 1909. Dr. H. C. Trachman read a paper on Neurosis and Tuberculosis of the Larynx, in which he described typical cases of both conditions. The meeting was held at the office of Dr. W. C. Shipley and after the meeting the society was banqueted by the Cloverdale members, Drs. Shipley, F. C. Grant and H. C. Trask, and then attended, in a body, the Citrus Fair.

The meeting for March was held on the 5th, at Santa Rosa, the subject of the evening being the Care of the Mother and Babe, Before, During and After Labor; papers by Drs. Jackson Temple and J. C. Condit were generally discussed. The next meeting is to be held at Petaluma, April 2nd, and Dr. George H. Evans, of San Francisco, will read a paper on Tuberculosis.

G. W. MALLORY, Secretary.

#### SAN FRANCISCO BRANCH, H. K. MULFORD COMPANY.

In order the more conveniently to serve the coast trade, the H. K. Mulford Company has opened a branch house in San Francisco at Second and Natoma streets.

#### ITALIAN-AMERICAN MEDICAL SOCIETY, FORMED.

On March 4th the Italian-American Medical Society of San Francisco was launched at a banquet at For d' Italia restaurant, to which all those mentioned below had been invited by Dr. Osea Perrone, the organizer. After a sumptuous repast and an informal discussion as to the most advisable way to proceed to the formation of an active organization, Drs. A. S. Musante, O. Perrone and E. Taussig were appointed to draft a set of by-laws and constitution. Besides those named, Drs. C. Barsotti, A. de Lucis, M. Isnardi, V. Luchetti and G. Scapparone were present. Drs. D. Bacigalupi, C. Bricca, G. Coglieri, Jadarola and T. Rottanzi have signified their support in the movement, but were prevented from being present. It is expected to have the few remaining eligibles come into the society, as it is for the social, professional and economic improvement of the Italian-American practitioners that it is instituted.

#### REMARKABLY HEALTHY.

Dr. David B. Fields, Superintendent of the Trinity County Hospital, was somewhat surprised to receive a communication from the State Board of Health asking why the death rate in his county was so low. He thereupon investigated certain conditions, among them the ages of the inmates of the county hospital, finding that the average age of the twenty-one inmates was 77.85 years, as may be seen from the appended list. The question arises, Is this a hospital or an institution for old men?

The following are the inmates and the ages in the Trinity County Hospital, March 11th, 1909:

Bell, Frank, 85; Boles, John, 82; Boltz, John, 82; Boyle, Mike, 76; Cass, Charles, 73; Collins, Ira, 74; Cross, W. E., 80; Frank, William, 84; Fenton, Mike, 78; Ford, B., 74; Frye, Louis, 76; Hartigan, John, 86; Heist, Chris, 63; Luckie, James, 78; Louppe, John, 69; Mitchell, Frank, 81; McCoy, Chesley, 84; McManus, Harry, 62; Nichols, W. H., 64; Smith, Roland, 94; Zooks, Sam, 90.

The average age of the above twenty-one is 77.85.

#### GROUND SQUIRRELS.

The humble and lowly ground squirrel, according to C. Hart Merriam, U. S. Biological Survey, causes a loss to agriculture on this coast of some \$10,000,000 annually. But that is not why the insignificant squirrel is attracting attention; it is because he is known to be a carrier of plague. Merriam has written an excellent article, which is reprinted from the Public Health Reports, on the ground squirrel and the best way to get rid of him. Seeing that we have in certain counties of California a permanent plague focus (unless the squirrels can be exterminated), it is to be hoped that the article will have a wide distribution and general reading.

#### HEALTH PAMPHLETS.

The Health Department of the Pasadena City Schools, under the management of Dr. Hoag, has begun the publication of little leaflets called "Health Pamphlets," setting forth, briefly, certain facts in regard to the health of school children and defects to be looked for. These should prove of great value in educating parents and the public generally in matters of public health. They are small, easily read and set forth their contained information in a plain and simple manner; they should be adopted by other places where there is medical supervision of school children.

**DEATH OF DR. BULL.**

Dr. Wm. T. Bull, the distinguished surgeon of New York, died of cancer, February 22nd, 1909. He had been incapacitated for many months and had had his share of suffering before the end came to relieve him.

**NEW AND NON-OFFICIAL REMEDIES.**

Since the publication of New and Non-Official Remedies, 1909, the Council has acted on the following products:

Articles accepted for N. N. R.—  
 Brovalol (Schering & Glatz).  
 Medinal (Schering & Glatz).  
 Veronal Sodium (Farbenfabriken, of Elberfeld Company).  
 Agurin Tablets, 5 grs. (Farbenfabriken).  
 Citarin Tablets, 15 grs. (Farbenfabriken).  
 Hedonal Tablets, 8 grs. (Farbenfabriken).  
 Veronal Sodium (Farbenfabriken of Elberfeld Novaspirin Tablets, 5 grs. (Farbenfabriken).  
 Piperazine Tablets, 16 grs. (Farbenfabriken).  
 Sajodin Tablets, 8 grs. (Farbenfabriken).  
 Acet-Theocin-Sodium Tablets, 4 grs. (Farbenfabriken).  
 Veronal Tablets, 5 grs. (Farbenfabriken).  
 Iodothyrene Tablets, 5 grs. (Farbenfabriken).  
 Articles accepted for N. N. R. Appendix—  
 Tabloid Coffee Mint (Burroughs, Wellcome & Co.).  
 Maltine (Maltine Company).  
 Articles reconsidered and rejected—  
 Migrainin (Koechl & Co.).

**ACTIVE SECRETARIES.**

Sacramento is to be congratulated upon the activity of the Secretary of its County Society, Dr. E. C. Turner. After every meeting he sends out a circular letter to those who were not in attendance at the meeting, briefly outlining what was done and calling attention to the attractive things presented from month to month. This amount of personal interest shown in individual members can not but help to increase the general tone and activity of the society. A somewhat similar line of activity is shown by Dr. M. L. Emerson, Secretary of the Alameda County Society, and it has had a very stimulating effect upon that organization.

**AMERICAN PHARMACEUTICAL ASSOCIATION.**

The A. Ph. A., as it is generally called, will meet in Los Angeles this summer—in August, if we are correctly informed. The meeting will be a notable one and a large attendance is expected. It would well repay many of our members to attend the sessions of this Association, if they can conveniently find the time. They will undoubtedly be very welcome, as guests.

**PUBLICATIONS.**

**Therapeutics of Radiant Light and Heat and Convective Heat.** By Wm. Benham Snow, M. D., Author of "A Manual of Electro-Static Modes of Application, Therapeutics, Radiography and Radiotherapy," "Currents of High Potential of High and Other Frequencies," Editor of the Journal of Advanced Therapeutics, and late Instructor in Electro-Therapeutics in the New York Post Graduate Medical School. Scientific Authors' Publishing Company, 349 West Fifty-seventh street, New York. Price \$2 net.

**Surgical Diseases of Children.** By Samuel W. Kelley, M. D. E. B. Treat & Co., New York. 1909.

After a very careful perusal of this volume of 765 pages, the reviewer has no hesitancy in advising students and practitioners to ignore its existence. There can be no valid excuse for writing such ram-

bling discourses and inaccuracies. The enumeration of the latter would require pages of fine type and merely cause merriment or lassitude. In these days of over-burdened bibliography, it becomes a duty to sound an occasional note of warning. Unfortunately, in the present instance, one can only conjecture as to where rests the responsibility (writer or publisher) of foisting upon the medical profession such a senseless book. D. T.

**Diseases of the Digestive Canal (Oesophagus, Stomach, Intestines).** By Paul Cohnheim. Edited and translated by Dudley Fulton, M. D. J. B. Lippincott Company, Philadelphia.

In these days of encyclopedic publications the general practitioner in search of a guide will welcome this clear and concise record of personal experience in the study of gastric disorders. Omitting physiologic and pathologic considerations as well as all bibliographic data, Cohnheim has given an excellent picture of the practical side and thoroughness which characterize the teaching at his well known and popular Berlin clinic. Like all true clinicians, Cohnheim lays infinite stress upon the anamnesis in diagnosis, and in every chapter the reader will note the prominence given to subjective symptoms and the secondary role of laboratory methods. The major portion of this book of 235 pages is devoted to diseases of the stomach, and will prove a trustworthy guide to the busy practitioner, especially in the diagnosis and treatment of functional disorders of the stomach. The subject of chronic constipation is treated logically, practically and at considerable length. Those who are conversant with the recent gynecological and urological contributions to the study of mucous colitis, will note with surprise Cohnheim's rejection of the neurotic origin of some forms of this disorder. The chapters on diseases of the esophagus and rectum should have been either omitted or rewritten. In their present state they contain numerous antiquated views and dangerous statements.

Successful translating is a difficult and complex art. Dr. Dudley Fulton deserves praise for his very lucid translation and also for having bolstered up the author's surgical shortcomings. Indeed, one regrets the paucity of editorial emendations, although the addition of poor pathological plates has had a tendency to lower the value of the original work. D. T.

**Golden Rules of Dietetics.**—By A. L. Benedict, A. M., M. D. C. V. Mosby Medical Book and Publishing Company, St. Louis, 1908.

This volume of 407 pages contains an account of the general principles and details of the science and art of dietetics. While the work is not original in any sense of the word it does present the practical side of the question in an interesting and useful manner. At the same time sufficient emphasis has been laid on matters of more or less academic interest which at least indicate the trend of modern research along lines which promise help at the bed-side. Since dietetics in the hands of most physicians is neither an art nor a science this book if read will do much good by putting the practice of dietetics on a more intelligent basis.

**Human Anatomy.**—Edited by George A. Piersol, M. D., Professor of Anatomy in the University of Pennsylvania. J. B. Lippincott Company, Philadelphia and London, 1908. 2088 pages.

It has been told of Strafford that before reading any book for the first time, he would call for a sheet of paper, and then proceed to write down upon it some sketch of the ideas that he already had upon the subject of the book and of the questions that he expected to find answered. "After glancing my eye over the design and order of a new book," says Gibbon, "I suspended the perusal till I had fin-



ished the task of self-examination, till I had revolved in a solitary walk all that I knew or believed or had thought on the subject of the whole work or of some particular chapter; I was then qualified to discern how much the author added to my original stock; and if I was sometimes satisfied by the agreement, I was sometimes warned by the opposition of our ideas." Critical literature built of such high ideals is unfortunately nowadays but seldom found in book-review work; its decadence is to be deplored for surely none can be more instructive or interesting.

In the review of the present work on Anatomy the reviewer has perforce contented himself with the mediocre task of reading a chapter here and there—chapters dealing with subjects in which he is more or less personally interested. The work is too encyclopedic in proportion for anything like a detailed criticism. However, from our perusal we have gathered a most favorable impression of the work, not only from the clearness of description but also from the suggestive and practical manner in which the subject is handled. Indeed, the names of the contributors are sufficient assurance of the general excellence of the reading matter which is further illuminated by many new and original illustrations. In the latter respect alone the volume is noteworthy. The determination to produce a series of drawings that should faithfully record the dissections and preparations as they actually appear and not as diagrammatic figures has been fully realized. When it is stated that considerable more than 2000 original drawings have been made in the preparation of the figures illustrating the work, some conception will be had of the magnitude of this feature.

Of special interest is the stand taken by the editor with reference to the nomenclature advocated by the Basle Congress. It is evident that he considers the terminology used by English-speaking anatomists and surgeons more practical, although the BNA synonyms may be found in the special type reserved for the purpose. "The constant aim of the editor has been to use the simplest anatomical terminology and preference has always been given to the anglicized names, rather than to the more formal designations. Although in many cases the modifications suggested by the new terminology have been followed with advantage, consistent use of the Basle nomenclature seems less in accord with the conceded directness of English scientific literature than the enthusiastic advocates of such adoption have demonstrated."

It may be of interest to know that the contributors to the volume are Prof. Thomas Dwight, of Harvard University, who has written the description of the skeleton, including the joints, and that of the gastrointestinal system and of the accessory organs of nutrition; Prof. Carl A. Hamann, of Western Reserve University, who has contributed the account of the cerebro-spinal and sympathetic nerves; Prof. J. Playfair McMurrich, of the University of Michigan, who has supplied the descriptions of the muscular, and of the blood-and-lymph-vascular systems; Prof. J. William White, of the University of Pennsylvania, who has dealt with the practical requirements of the subject from the standpoint of the practitioner; and finally, Prof. George A. Piersol, also of the University of Pennsylvania, who has written the introductory, histological and embryological sections throughout the work, and contributed the description of the central nervous system, including the deep relations of the cranial nerves, of the organs of special sense, of the carotid, coccygeal and aortic bodies, and of the uro-genital system.

A. J. L.

**Gonorrhoea in Women.** By Palmer Findley, Professor of Gynecology in the College of Medicine of the University of Nebraska, etc.

This little monograph covers the subject under the title quite exhaustively and is as nearly up to

date as it is well possible to be. The author has appended a very complete bibliography, the arrangement of which, as well as that of the text, is very convenient. Under the head of "Abortive Treatment" and "Prophylaxis" we must wholly agree with the author, that until such time as the male prostitute shall be regulated and denied the artificial and grossly unfair and unwise protection afforded him through the "medical secret" anything like an effective prophylaxis must be out of the question. His suggestion, that the most effective move might emanate from some morally courageous Health Officer seems to offer one practical solution, or at least an entering wedge toward the same. With the very minor exception of evidences of probably careless proof-reading, as evidenced in several misspelled words and proper names, and "palida mars" for "pallida mors" in one quotation, the work gives evidence of careful preparation and an earnest endeavor to supply as nearly complete a presentation of this most vital subject as has as yet appeared.

J. C. S.

#### **Abdominal Hernia; Its Diagnosis and Treatment.**

By W. B. De Garmo, M. D. J. B. Lippincott, Philadelphia. 1908.

The author states in his preface that his book is addressed particularly to the physician, and has accordingly devoted much space to the diagnosis and mechanical treatment of abdominal hernia. The chapters on surgical treatment are devoted to an exposition only of those methods which have proven satisfactory in his hands.

The first chapters consist of a résumé, but sufficiently full for the purpose, of the surgical anatomy of the inguinal region, the descent of the testis, and the formation of the hernial sac. Following this is a very practical chapter on the differential diagnosis of inguinal hernia. The classification of inguinal hernia into oblique, direct, sigmoid or caecal interstitial may be open to objection, but the placing of sigmoid or caecal hernia in a distinct class, gives emphasis to the diagnostic points which are clearly pointed out to us. The danger of opening into the bowel directly in sigmoid hernia due to the extraperitoneal descent and the absence of a hernial sac, makes this form of hernia of particular diagnostic importance to the surgeon. This form is well described and illustrated.

The next one hundred pages are devoted to the mechanical treatment of hernia. Over and above all else this department makes the book worth while, and will be found most valuable to both surgeon and practitioner. This subject has been neglected both in our literature and in our practice; relegated as unimportant, we have turned our patients over completely to the truss maker, or nearest drug store, taking no active supervision of the case.

The author has brought to bear in this section a life-long interest in the subject and wide experience and observation. An interesting series of pictures are given showing the lines of development of trusses from their earliest beginning in different countries. The proper mechanism and application is explained and pictured. In fact the practical value of this section cannot be overestimated.

Another important chapter is the mechanical treatment of inguinal hernia in infancy and childhood. One-half of all abdominal herniae occur during the first five years of life; the proper treatment at this time is especially important since the defect may frequently be cured without an operation. Minute instructions are given for the handling of these cases. A short chapter of interest is inserted in the treatment of inguinal hernia by gymnastics with an outline of the exercises as developed by J. W. Seaver, Director of Physical Education at Yale. This subject is interesting but will hardly become popular with the profession.

In the chapter on the surgical cure of herniae we

would have wished that besides the description of the Bassimi and Halstead operation some reference had been made to Ferguson's method, the operation without transplantation of the cord, which simplifies the operation, causes a minimum of trauma and with overlapping of the fascia gives a permanent cure. In the surgical cure of direct hernia which at times becomes most difficult a fuller exposition would have been more satisfactory. In a book of this character we think more stress should have been placed on hernia in the linea alba, and more attention and space devoted to its diagnosis and symptomatology. Especially in America is this form of hernia overlooked and not sought after in the routine examination of patients suffering with stomach symptoms. Its frequency will be found to increase if carefully sought for, and relief brought to a large number of sufferers treated for dyspepsia. Aside from these minor criticisms, we believe the book has fulfilled the author's wishes and may be especially recommended to the student and the general practitioner. H. B.

**Medical Inspection of Schools.** By Luther Halsey Gulick, M. D. Director of Physical Training, New York Public Schools, and Leonard P. Ayres, General Superintendent of Schools of Porto Rico, 1906-1908. Charities Publication Committee, New York. 1908.

This volume had its origin in the "Backward Children Investigation," a research supported by the Russell Sage Foundation for the purpose of studying so-called "retardation" among school children, and inaugurated in November, 1907. It is a book of 276 pages in which the functions of medical school inspection are comprehensively defined. The work aims primarily at results of a practical nature, consequently, while it contains much of purely theoretical interest, the form of presentation is such as to make it of incalculable service to all who are directly connected with, or interested in, the betterment and safeguarding of the health of school children.

Medical inspection "is founded on a recognition of the close connection which exists between the physical and mental condition of the children and the whole process of education." It "seeks to secure ultimately for every child, normal or defective, conditions of life compatible with that full and effective development of its organic functions, its special senses, and its mental powers, which constitute a true education." (Extract from Memorandum of British Board of Education.) Such a conception of education is the development of recent years. While it is true that the laws of Lycurgus provided for state control of the physical and mental training of Spartan youths it is equally true that we have for centuries been complacently quoting Juvenal's much-abused half-line, "A sound mind in a sound body," forgetting all the time that while diligent provisions existed for schools in which "sound minds" were to be shaped, no scrutiny was exercised as to their fitness for conserving and developing "sound bodies." Indeed, most of us have been Ponce de Leons, little remembering that a healthy old age begins in the physical and mental training of our youth.

At first merely limited to the detection and segregation of contagious diseases, medical inspection of schools has extended its activities to a closer examination of the child, and as a result it now concerns itself with the discovery and remedy of those physical defects which interfere with the child's ability to do his work, or which, if neglected, will seriously affect his physical efficiency in after-life. From such inquiries surprising numbers of children have been found who, through defective eyesight or hearing have been seriously handicapped.

There seems to be a widespread belief in America that such work is still on trial and that we are leading the way. The reverse of both of these impressions is true. As early as 1837 a royal ordinance

in France made it the special duty of those having charge of kindergartens to watch over the health of the children; and the decrees of 1842 and 1843 ordered that every public boys' and girls' school should be visited by a physician who was to inspect the localities and the general health of the school children. Probably the first system of medical inspection in the full modern sense of the term was, however, inaugurated in Brussels in Belgium in 1874, when school physicians were appointed who were required to visit schools three times a month. So successful did the system prove that it was soon adopted by Antwerp, Louvain, Liege and other cities, and served as a model for systems in Switzerland. In Germany, Leipsic and Dresden were the first cities to have medical inspection. A beginning was made in Dresden in 1867, but it was not until 1889 that a true medical inspection was established when in Wiesbaden a system was developed providing for a careful and thorough physical examination of each child at the time of entering school, and for a re-examination in the third, fifth, and eighth years of the public school course. The system also provides for careful service for the detection of contagious diseases and for the inspection of school buildings and surroundings. In 1898 the Wiesbaden system was generally adopted throughout Germany. Other countries, such as Hungary, Austria, Norway, Sweden, England, Chile, Argentine Republic and Japan have also made provisions for medical inspection.

In the United States the first regular system of school inspection seems to have been made in Boston in 1894, although 2 years before that date Dr. Moreau Morse had been appointed Medical Inspector of Schools in the City of New York. It was not, however, until 1897 that the work was seriously undertaken in the latter city. Since then the movement has spread to other large cities, but not to the extent which the importance of the matter demands.

In some parts of our country the objection has been made to the introduction of such medical supervision, that the state has no right to permit or require such over-seeing; but as Dr. William H. Allen has very properly said: "When the state for its own protection compels a child to go to school, it pledges itself not to injure itself by injuring the child."

It is probable that considerable time will pass before there will be brought to bear in all schools the measures, now so successfully pursued in some, for maintaining and improving the physical soundness of rising generations. But the book the subject of this review, will bring Light where Darkness before prevailed. A. J. L.

#### CHANGE OF ADDRESS.

Berg, Adolph, from Ortmann Bldg., to 525 Montgomery st., San Francisco.

Wislocki, E. J., from 1st and Fountain sts., San Jose, to 26 South 1st st., San Jose.

Gates, C. O., from Mt. View, to Watsonville, Cal.

Hart, Frank R., from Suisun, to Santa Cruz, Cal.

Brady, Geo. T., from 1101 Geary st., to Phelan Bldg., San Francisco.

Robertson, John, from San Francisco, to Register Bldg., Napa, Cal.

Sampson, J. H., from San Francisco, to Garden City Bank Bldg., San Jose, Cal.

Wilson, Wm. Lester, San Mateo, Cal.

Bryant, C. W., from Oroville, Cal., to Los Angeles.

Baldwin, H. Y., from Pinole, Cal., to —.

Rankin, Jno T., from Los Angeles, to Calexico, Imperial Co., Cal.

Campbell, H. T., Security Bldg., Los Angeles.

Minaker, Andrew J., from 146 Grant ave., to 240 Stockton st., San Francisco.

Baker, M. D., from 85 South Whitney st., San Jose, to Garden City Bank Bldg., San Jose.

**Kucick, O. S.**, from 303½ Montgomery ave., to 277 Montgomery ave., San Francisco.

**Belknap, Florence A.**, from San Francisco, to P. O. Box 144; R. F. D. No. 3, San Jose, Cal.

**Artigues, Joseph E.**, 205 Montgomery ave.

**Craig, M. A.**, from Vallejo, Cal., to Lakeport, Cal.

**Mudd, Jay Leroy**, Merced, Cal.

**Bass, Annie H.**, from Oak Park, Cal., to Reno, Nev.

**Cole, J. A.**, from Park, El Dorado Co., to 3313 Sacramento ave., Sacramento.

**Ward, Jno. Milton**, from Los Angeles, to 2902 35th st., Sacramento.

**Hatch, Fred W.**, from 522 K st., Sacramento, to Elks' Bldg., Sacramento.

**Beauchamp, Harry H.**, from 1625 P st., Sacramento, to Oak Park, Cal.

**Faris, C. M.**, from 1005 K st., Sacramento, to 1010½ J st., Sacramento.

**Fisher, Jno. H.**, from 718 J st., Sacramento, to 719½ K st., Sacramento.

**Gladding, Chas. F.**, from 2511 I st., to 1010½ J st., Sacramento.

**Higgins, Aubrey F.**, from Vacaville, Cal., to 719½ K st., Sacramento.

**O'Brien, Jas. W.**, from 916 6th st., to 918 6th st., Sacramento.

**Pitts, E. H.**, from Elks' Bldg., Sacramento, to Physicians' Bldg., Sacramento.

**Murray, Carl L.**, from 719½ K st., to 727½ K st., Sacramento.

**Shaw, Frederic E.**, Sisters' Hospital, Sacramento.

**Reynolds, Louis G.**, from Los Angeles, to 810½ K st., Sacramento.

**Newmark, Leo**, 135 Stockton st. (Butler Bldg.), San Francisco.

**Green, Francis M.**, 2730 Haste st., Berkeley, Cal.

**Martin, Geo. H.**, from 1380 Sutter st., to 135 Stockton st., San Francisco.

**Dickenson, C. F.**, Fort Barry, Marin Co., Cal.

**Love, E. C.**, 1377 5th ave., East Oakland, Cal.

**Warren, H. S.**, from San Francisco, to Coalinga, Fresno Co., Cal.

**McMurdo, J. R.**, from 1800 Turk st., to 240 Stockton st., San Francisco.

**Moore, Wm. G.**, from 2713 Sacramento st., to 1121 Devisadero st., San Francisco.

**Burke, Marion**, from Los Angeles, to Pine Inn, Carmel-by-the-Sea, Cal.

**Ingersoll, Lucy M.**, from Escondido, Cal., to 359 Lemon st., Riverside, Cal.

**Fisher, Martin H.**, Union Savings Bank Bldg., Oakland.

**Mallery, Jno. Harry**, from Eureka, Cal., to La Mesa, San Diego Co., Cal.

**Cox, L. C.**, from 2100 Devisadero st., to 1797 Sutter st., San Francisco.

**Keys, E. M.**, from M. E. Bldg., Alameda, to P. O. Box 116, Alameda, Cal.

**Guglieri, A. A.**, 806 Vallejo st., San Francisco.

**Pischel, Kaspar**, from 1817 California st., to 135 Stockton st. (Butler Bldg.), San Francisco.

**Todd, C. E.**, from Santa Barbara, Cal., to Los Angeles.

**Newmark, Philip**, from Bradbury Blk., Los Angeles, to Security Bldg., Los Angeles.

**Smith, E. H.**, from 2617½ Octavia st., to Phelan Bldg., San Francisco.

**Wilson, Carl G.**, from Menlo Park, to 860 University ave., Palo Alto, Cal.

**Morgan, Chas. L.**, from address unknown to Half Moon Bay, San Mateo Co., Cal.

**Banta, Wm.**, from address unknown to Calistoga, Napa Co., Cal.

**Mathewson, May A.**, from address unknown to Dos Palos, Merced Co., Cal.

**Mathewson, Carelton**, from address unknown to Dos Palos, Merced Co., Cal.

**Page, Clarence W.**, from Postoffice Bldg., Berkeley, to 2131 University ave., Berkeley, Cal.

**Scapparone, C. G.**, 617 Montgomery ave., San Francisco.

**Friedberger, W.**, from Stockton, to French Camp, Cal., care County Hospital.

**Lendrum, B. A.**, Fort Bragg Hospital, Fort Bragg, Cal.

**Gardner, A. M.**, from 1059 O'Farrell st., to 240 Stockton st., San Francisco.

**Hughes, Jerome A.**, from 1823 Eddy st., to 86 Post st., San Francisco.

**Pressley, Jas. F.**, from 300 Page st., to 135 Stockton st., San Francisco.

**Plinz, Jno. K.**, from Mason and Union sts., to 916 Kearny st., San Francisco.

**Bodkin, T. P.**, from Haight and Fillmore sts., to 425 Fillmore st., San Francisco.

**Crawford, W. F.**, from 112 Scott st., to 419 Hayes st., San Francisco.

**Cottingham, R. C.**, from 3319 Jackson st., to 1990 Sutter st., San Francisco.

**Kronenberg, H.**, from 1843 McAllister st., to 3720 20th st., San Francisco.

**Leffler, Jno.**, from 1808 Laguna st., to 1911 Sutter st., San Francisco.

**Linforth, Grace S.**, from 418 Bartlett st., to 3118 Clay st., San Francisco.

**Mahan, D. J.**, from 2344 Sutter st., to 17th and Market sts., San Francisco.

**Orr, Robt. H.**, from 2104 Howard st., to Phelan Bldg., San Francisco.

**Palmer, C. B.**, from 1836 Pine st., to 1256 Hyde st., San Francisco.

**Powers, C. L.**, from 1911 Bush st., to 1694 Post st., San Francisco.

**Rabe, B. A.**, from 261 4th ave., to 930 Clement st., San Francisco.

**Richstein, J. J.**, from 39th ave. and J st., to Westbank Bldg., San Francisco.

#### New Members.

**Fairchild, F. D.**, 4605 Central ave., Los Angeles.

**Cahen, Edw. M.**, County Hospital, Los Angeles.

**Balsley, Jno. A.**, 1447 11th st., Santa Monica.

**Newcomb, Ralph H.**, 44 South Marengo ave., Pasadena.

**Whitlock, R. G.**, 2828 East Main st., Los Angeles.

**Jones, Ed. D.**, 3146 Vermont ave., Los Angeles.

**Welsh, P. M.**, Bixby-Heartwell Bldg., Long Beach, Cal.

**Pascoe, E. R.**, County Hospital, Los Angeles.

**Manning, W. R.**, 213 South Broadway, Los Angeles.

**Bowerman, A. C.**, El Monte Los Angeles Society (by transfer from Fresno Co. Society).

#### Deaths.

**Van Meter, Miles E.**, San Francisco, Cal.

**Smith, Jno. Wm.**, San Francisco, Cal.

**Dearth, Leonard**, Los Angeles, Cal.

**Brayton, H. W.**, San Francisco, Cal.

**Jones, Henry Isaac**, Oakland, Cal.

#### Resigned.

**Noble, Maud**, San Francisco.